YAMAHA

SUPPLEMENTARY SERVICE MANUAL

VX500SXBC
VX700ERC

LIT-12668-02-01

8CT-28197-10
(981021)

FOREWORD

This Supplementary Service Manual has been prepared to introduce new service and new data for the VX500SXBC, VX700ERC. For complete information, on service procedures, it is necessary to use this Supplementary Service Manual together with following manual:

VT500A, VT600A, MM600A, MM700A
VX500XTA/XTCA/XTCEA/XTCRA
VX600XTA/XTCA/XTCEA/XTCRA/SXA
VX700SXA
SERVICE MANUAL:
8CY-28197-10 (LIT-12618-01-83)

OE001

NOTICE

This manual was written by the Yamaha Motor Company primarily for use by Yamaha dealers and their qualified mechanics. It is not possible to put an entire mechanic's education into one manual, so it is assumed that persons using this book to perform maintenance and repairs on Yamaha snowmobiles have a basic understanding of the mechanical concepts and procedures inherent in snowmobile repair. Without such knowledge, attempted repairs or service to this model may render it unfit to use and/or unsafe.

Yamaha Motor Company, Ltd. is continually striving to improve all models manufactured by Yamaha. Modifications and significant changes in specifications or procedures will be forwarded to all Authorized Yamaha dealers and will, where applicable, appear in future editions of this manual.

OE022

VX500SXBC
VX700ERC
SUPPLEMENTARY SERVICE MANUAL

1st Edition, March 1998

OE011

HOW TO USE THIS MANUAL

Particularly important information is distinguished in this manual by the following notations:

⚠

The Safety Alert Symbol means ATTENTION! BE ALERT!
YOUR SAFETY IS INVOLVED!

⚠ WARNING

Failure to follow WARNING instructions could result in severe injury or death to the snowmobile operator, a bystander, or a person inspecting or repairing the snowmobile.

CAUTION:

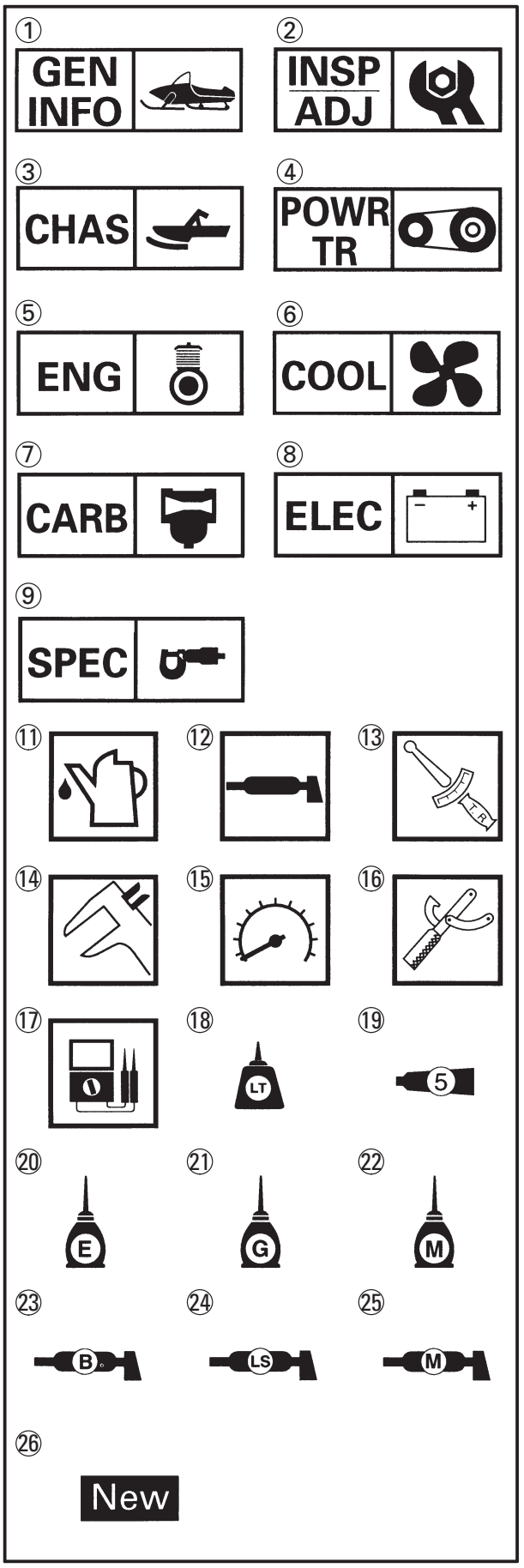
A CAUTION indicates special precautions that must be taken to avoid damage to the snowmobile.

NOTE:
A NOTE provides key information that can make procedures easier or clearer.

MANUAL FORMAT
All of the procedures in this manual are organized in a sequential, step-by-step format. The information has been compiled to provide the mechanic with an easy to read, handy reference that contains comprehensive explanations of all inspection, repair, assembly, and disassembly operations.
If this revised format, the condition of a faulty component will precede an arrow symbol and the course of action required to correct the problem will follow the symbol, e.g.,

- Bearings
  Pitting/Damage → Replace.

EXPLODED DIAGRAM
Each chapter provides exploded diagrams before each disassembly section to facilitate correct disassembly and assembly procedures.



OE031

ILLUSTRATED SYMBOLS

(Refer to the illustration)

Illustrated symbols ① to ⑨ are designed as thumb tabs to indicate the chapter's number and content.

① General information
② Periodic inspection and adjustment
③ Chassis
④ Power train
⑤ Engine overhaul
⑥ Cooling system
⑦ Carburetion
⑧ Electrical
⑨ Specifications

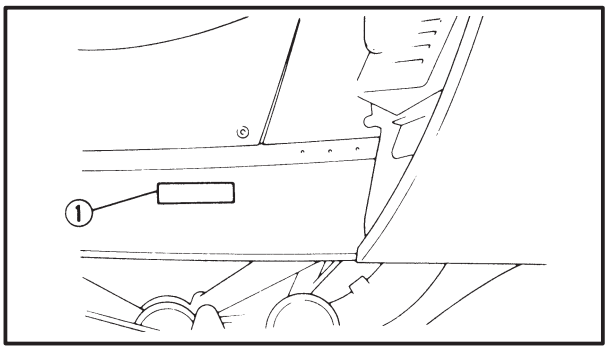
Illustrated symbols ⑪ to ⑰ are used to identify the specifications which appear.

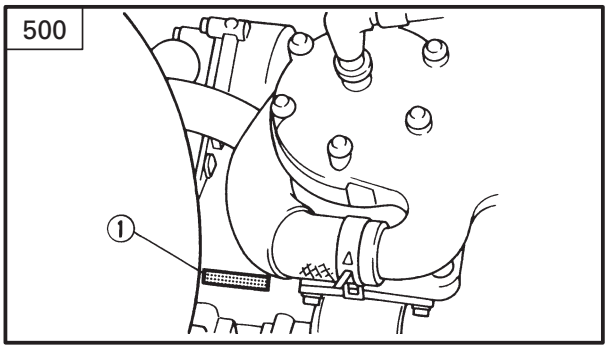
⑪ Filling fluid
⑫ Lubricant
⑬ Tightening
⑭ Wear limit, clearance
⑮ Engine speed
⑯ Special tool
⑰ Ω, V, A

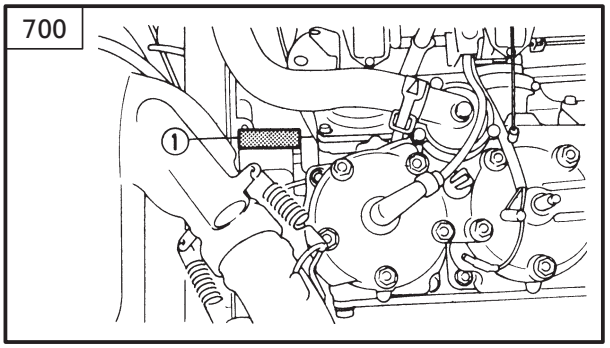
Illustrated symbols ⑱ to ㉖ in the exploded diagram indicate grade of lubricant and location of lubrication point.

⑱ Apply locking agent (LOCTITE®)
⑲ Apply Yamabond No.5®
⑳ Apply engine oil
㉑ Apply gear oil
㉒ Apply molybdenum disulfide oil
㉓ Apply wheel bearing grease
㉔ Apply low-temperature lithium-soap base grease
㉕ Apply molybdenum disulfide grease
㉖ Use new one

CONTENTS







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GENERAL INFORMATION

MACHINE IDENTIFICATION

FRAME SERIAL NUMBER

The frame serial number ① is located on the right-hand side of the frame (just below the front of the seat).

ENGINE SERIAL NUMBER

The engine serial number ① is located on the right-hand side of the crankcase.

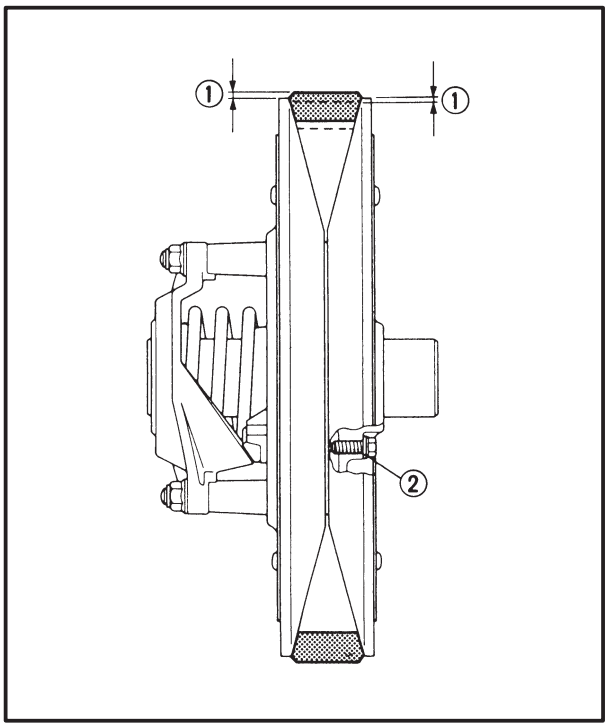
NOTE:

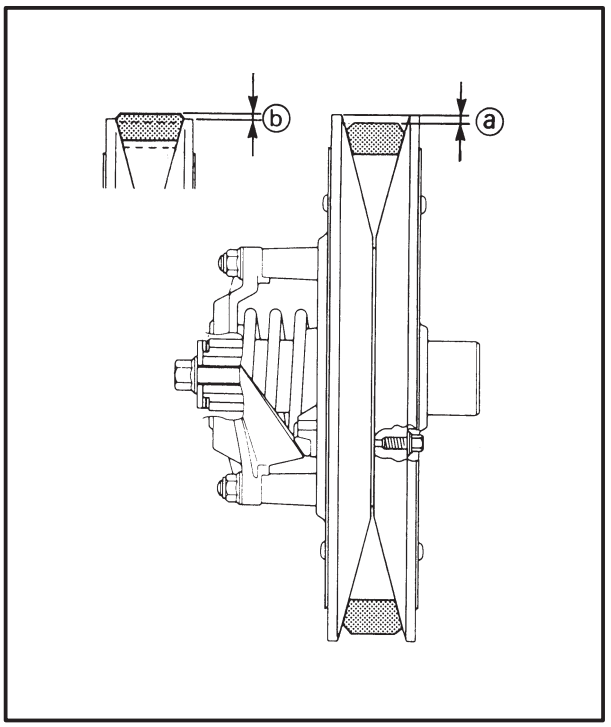
Designs and specifications are subject to change without notice.

IMPORTANT INFORMATION

LOCTITE®

After installing fasteners that have LOCTITE® applied, wait 24 hours before using the machine.
This will give the LOCTITE® time to properly dry.





POWER TRAIN

DRIVE V-BELT

⚠ WARNING

When installing the new V-belt, make sure that it is positioned within the specified distances ① from the edge of the secondary sheave.
If not, the clutch engagement speed will be changed. The machine may move unexpectedly when the engine is started.
Adjust the V-belt position by removing or adding a spacer ② on each adjusting bolt.
For this adjustment, consult a Yamaha dealer or another qualified mechanic.

CAUTION:

As the V-belt wears, adjustment may be necessary. To ensure proper clutch performance, the V-belt position should be adjusted by adding a spacer on each adjusting bolt when the V-belt position reaches below the edge.
For this adjustment, consult a Yamaha dealer or another qualified mechanic.

New belt width:
35.0 mm (1.38 in) (500)
34.5 mm (1.36 in) (700)
Belt wear limit width:
33.0 mm (1.30 in) (500)
32.5 mm (1.28 in) (700)

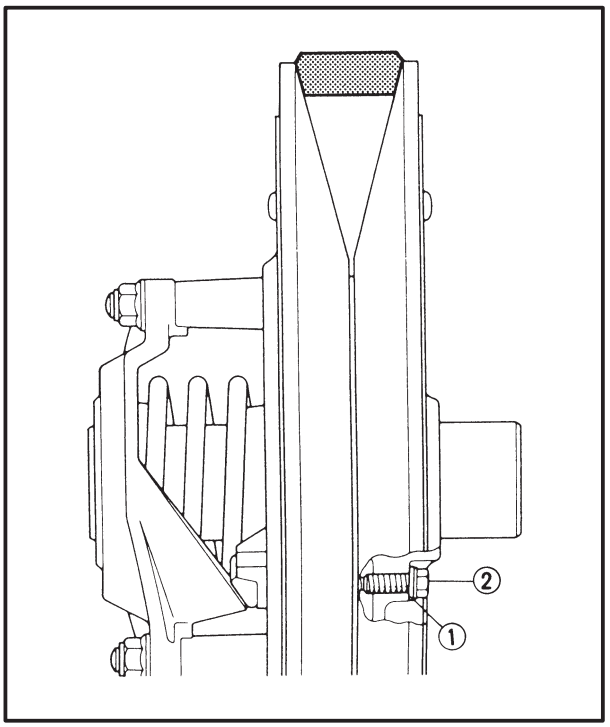
1. Measure:
   • V-belt position ⓐ or ⓑ

NOTE:

Install the new V-belt onto the secondary sheave only. Do not force the V-belt between the sheaves; the sliding and fixed sheave must touch each other.

Standard V-belt height
(Below sheave surface) ⓐ (500):
0 ~ 2 mm (0 ~ 0.08 in)
Standard V-belt height ⓑ (700):
–0.5 ~ 1.5 mm (–0.02 ~ 0.06 in)

• Out of specification → Adjust.

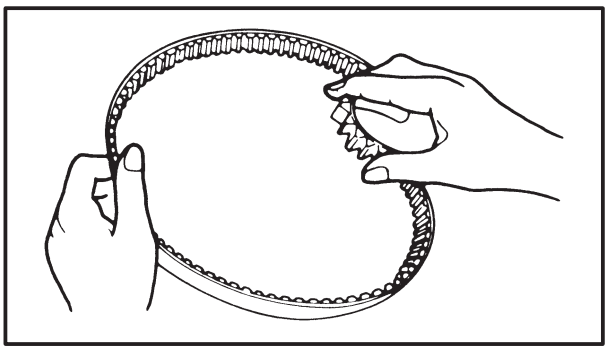


2. Adjust the position of the V-belt by removing or adding a spacer ① on each adjusting bolt ②.

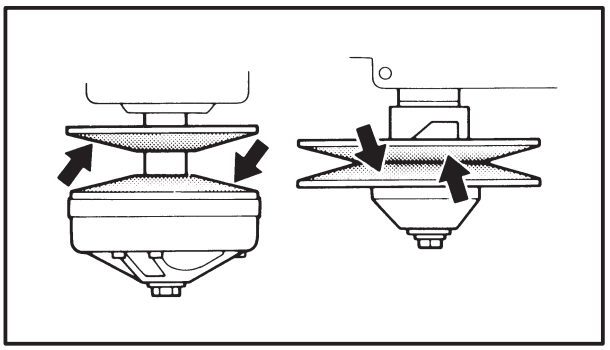
V-belt height adjustment
To move V-belt up: Add spacer
To move V-belt down: Reduce spacer

3. Tighten:
   • Adjusting bolt

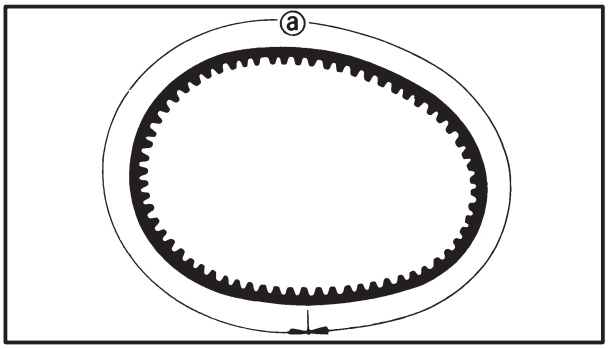
Adjusting bolt:
10 Nm (1.0 m•kg, 7.2 ft•lb)



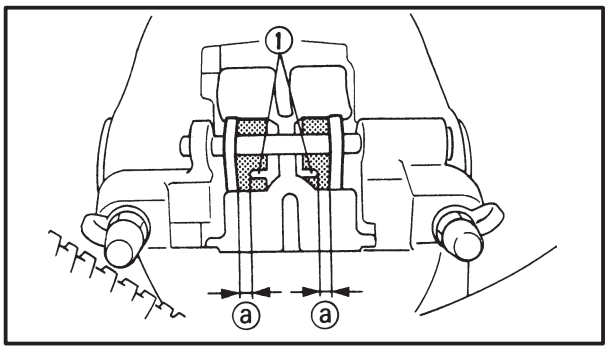
4. Inspect:
   • Drive V-belt
   Cracks/damage/wear → Replace.
   Oil or grease on the V-belt → Check the primary and secondary sheaves.

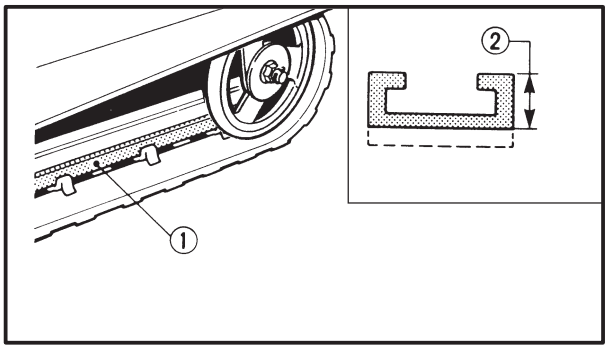


5. Inspect:
   • Primary sheave
   • Secondary sheave
   Oil or grease on the primary and secondary sheaves → Use a rag soaked in lacquer thinner or solvent to remove the oil or grease. Check the primary and secondary sheaves.
6. Measure:
   • Drive V-belt length ⓐ
   Out of specification → Replace.



Drive V-belt length:
500
1,119 ~ 1,129 mm
(44.063 ~ 44.437 in)
700
1,129 ~ 1,137 mm
(44.4 ~ 44.7 in)





BRAKE PAD INSPECTION

1. Apply the brake lever.
2. Inspect:
   - Brake pad
     Wear indicator ① nearly contacts the brake disc → Replace the brake pads as a set.

Wear limit ⓐ:
4.7 mm (0.185 in)

SLIDE RUNNER INSPECTION

1. Inspect:
   - Slide runner ①
     Cracks/damage/wear → Replace.
2. Measure:
   - Slide runner thickness ②
     Out of specification → Replace.

Slide runner wear limit:
10 mm (0.39 in)

TUNING

CLUTCH

High altitude

W	White	S	Silver	L	Blue
P	Pink	R	Red	O	Orange
Y	Yellow	G	Green		

Specifications Model: VX500SXB

A Elevation	~ 3,500 ft	3,000 ~ 5,000 ft	4,500 ~ 7,000 ft	6,500 ~ 10,000 ft
B Idle speed	Approx. 1,600 r/min	←	←	←
C Clutch engagement	Approx. 4,000 r/min	4,100 r/min	4,200 r/min	←
D Shift speed	Approx. 7,800 r/min	←	←	←
E Main jet	#151.3 (STD)			
F Pilot (slow) jet	#45 (STD)	d See MAINTENANCE SPECIFICATIONS (High altitude settings)		
G Idle mixture screw	1-3/4 (STD)			
H Gearing	22/39 (70L)	21/39 (68L)	20/39 (68L)	19/39 (68L)
I Primary spring				
J Color	W-P-W	←	Y-P-Y	O-P-O
K Length	78.7 mm	←	77.4 mm	74.6 mm
L Preload rate	30 kg – 2.25 kg/mm	←	30 kg – 2.5 kg/mm	30 kg – 3.25 kg/mm
M Wire diameter	ø5.5 mm	←	ø5.8 mm	ø6.0 mm
N Outside diameter	ø60 mm	←	←	←
O Weight (1D)	8CR	←	←	←
P Weight rivet	Steel 13.9 (OUT)	Aluminum 10.3 (OUT)	None (OUT)	None (OUT)
	Aluminum 10.3 (IN)	None (IN)	None (IN)	None (IN)
Q Weight bushing	Duralon	←	←	←
R Roller outer dia.	ø15.0 mm	←	←	←
S Roller bushing	Duralon	←	←	←
T Pri. clutch shim	None	←	←	←
U Secondary spring				
V Color	R	←	←	←
W Length	75 mm	←	←	←
X Preload rate	90° (3-6) 729 kgmm/rad	←	←	←
Y Wire diameter	ø5.3 mm	←	←	←
Z Outside diameter	ø69.5 mm	←	←	←
a Sec. torque cam	43°	←	←	←
b Sec. clutch shim	1.0 mm	←	←	←

W	white	S	Silver	L	Blue
P	Pink	R	Red	O	Orange
Y	Yellow	G	Green		

Specifications Model: VX700ER

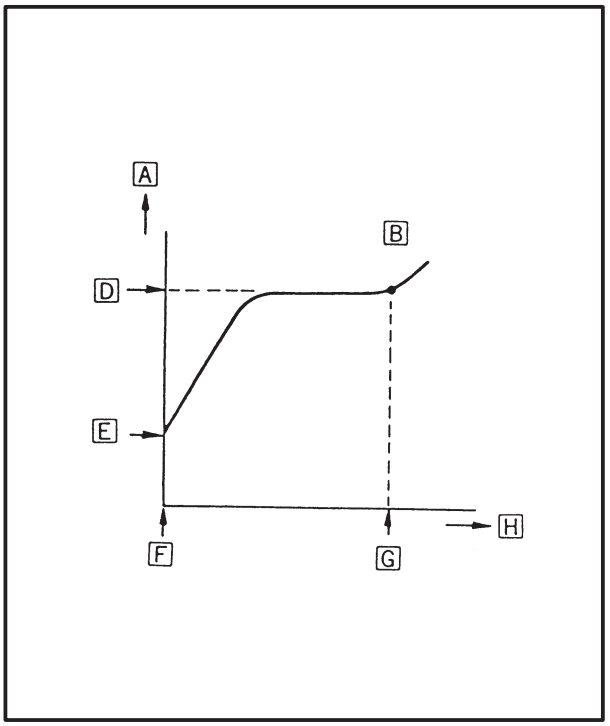
[A] Elevation	~ 3,500 ft	3,000 ~ 5,000 ft	4,500 ~ 7,000 ft	6,500 ~ 10,000 ft
[B] Idle speed	Approx. 1,600 r/min	←	←	←
[C] Clutch engagement	Approx. 4,000 r/min	←	←	←
[D] Shift speed	Approx. 8,300 r/min	←	←	←
[E] Main jet	#1: #145 #2, 3: #143.8 (STD)			
[F] Pilot (slow) jet	#45 (STD)	[d] See MAINTENANCE SPECIFICATIONS (High altitude settings)		
[G] Idle mixture screw	1-1/2 (STD)			
[H] Gearing	22/39 (70L)	←	←	22/40 (70L)
[I] Primary spring				
[J] Color	W-S-W	G-P-G	P	←
[K] Length	81.0 mm	76.3 mm	75.4 mm	←
[L] Preload rate	35 kg – 2.25 kg/mm	30 kg – 2.75 kg/mm	30 kg – 3.0 kg/mm	←
[M] Wire diameter	ø5.5 mm	ø5.8 mm	ø6.0 mm	←
[N] Outside diameter	ø48.0 mm	ø48.0 mm	ø60.0 mm	←
[O] Weight (1D)	8CH-00	←	←	←
[P] Weight rivet	Steel 10.3 (OUT) Steel 13.9 (IN)	Steel 10.3 (OUT) Steel 13.9 (IN)	Aluminum 10.3 (OUT) Steel 13.9 (IN)	None (OUT) Steel 13.3 (IN)
[Q] Weight bushing	Duralon	←	←	←
[R] Roller outer dia.	ø14.5 mm	←	←	←
[S] Roller bushing	Duralon	←	←	←
[T] Pri. clutch shim	None	←	←	←
[U] Secondary spring				
[V] Color	G	←	R	←
[W] Length	75 mm	←	←	←
[X] Preload rate	60° (3-3) 848 kgmm/rad	←	60° (3-3) 729 kgmm/rad	←
[Y] Wire diameter	ø5.5 mm	←	ø5.3 mm	←
[Z] Outside diameter	ø69.5 mm	←	←	←
[a] Sec. torque cam	45°	←	←	←
[b] Sec. clutch shim	1.0 mm	←	←	←

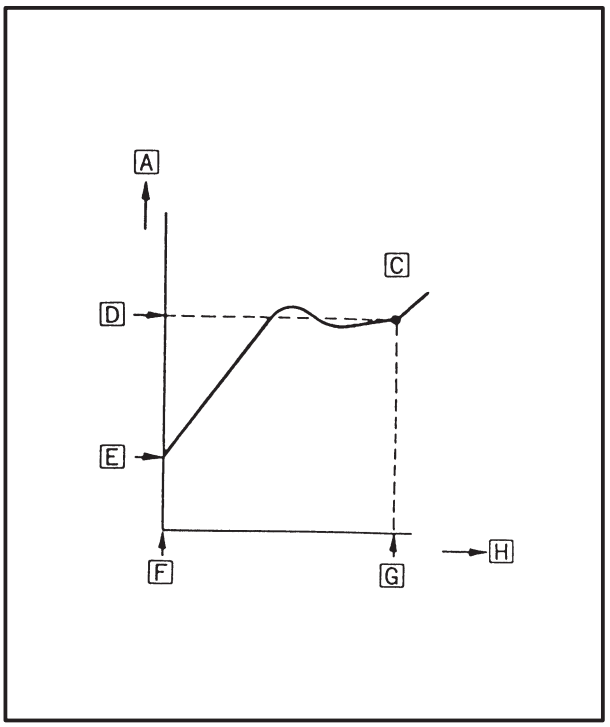
2E331

The clutch may require tuning depending upon the area of operation and desired handling characteristics. The clutch can be tuned by changing engagement and shifting speed. Clutch engagement speed is defined as the engine speed where the machine first begins to move from a complete stop.

Shifting speed is when the machine has been started at full-throttle from a dead stop and has travelled 200 ~ 300 m (650 ~ 1,000 ft).

Normally, when a machine reaches shifting speed, the vehicle speed increases but the engine speed remains nearly constant. Under unfavorable conditions (wet snow, icy snow, hills, or rough terrain), however, engine speed may decrease after the shifting speed has been reached.





A Engine speed

B Good condition

C Bad condition

D Clutch shifting speed

E Clutch engagement speed

F Starting position

G 200 ~ 300 m (650 ~ 1,000 ft)

H Distance travelled

GEAR SELECTION

The reduction ratio of the driven gear to the drive gear must be set according to the snow conditions. If there are many rough surfaces or unfavorable snow conditions, the drive/driven gear ratio should be increased. If the surfaces are fairly smooth or better snow conditions exist, decrease the ratio.

Gear ratio chart

The following drive and driven gears and chains are available as options. The figures in the upper lines represent the drive/driven gear ratios, while the number on the following line, followed by an "L", designates the number of chain links.

NOTE:

Do not set the gearing to any of the indicated (x) settings.

① Chain and sprocket parts number:

A Parts name	B Teeth & Links	C Parts No.	D Standard
E Drive sprocket	18T	89J-17682-80	
	19T	89J-17682-91	
	20T	89J-17682-00	
	21T	89J-17682-10	
	22T	89J-17682-20	VX500, VX700
	23T	89J-17682-30	
F Driven sprocket	39T	89J-47587-90	VX500
	40T	89J-47587-00	
	39T (REVERSE)	8CW-47587-90	VX700
G Chain (links)	68LINKS	94860-02068	
	70LINKS	94860-02070	VX500, VX700

② Gear ratio

A Drive gear / B Driven gear	18T	19T	20T	21T	22T	23T
39T	2.17 68L	2.05 68L	1.95 68L	1.86 68L	1.77 70L	1.70 70L
40T*	2.22 68L	2.10 68L	2.00 68L	1.90 70L	1.82 70L	1.74 70L

* Not for reverse models

③ Secondary spring

A Parts No.	B Spring rate N•mm/rad (kgmm/rad)	C No. of coils	D Color	E Wire gauge (mm)	F Free length (mm)	G Standard
90508-500B1	6003 (613)	5.2	BROWN	5.0	75	
90508-536A9	7147 (729)	5.5	RED	5.3	75	VX500
90508-556A2	8314 (848)	5.5	GREEN	5.5	75	VX700
90508-556A7	9460 (965)	4.8	SILVER	5.5	75	

④ Secondary spring twist angle

A Seat / B Sheave	0	3	6	9
1	10°	40°	70°	100°
2	20°	50°	80°	110°
3	30°	60°	90°	120°

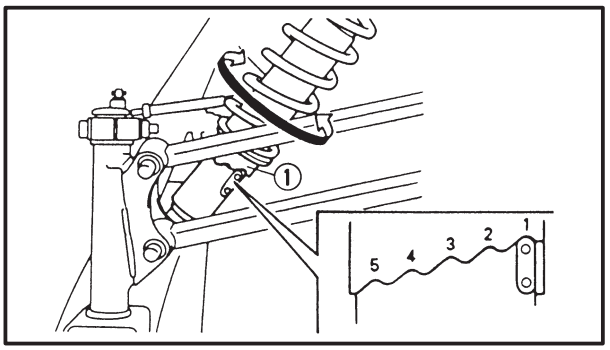
⑤ Torque cam (secondary spring seat)

A Parts No.	B Cam angle	C Standard
8BV-17604-10	41°	
8BV-17604-30	43°	VX500
8BV-17604-50	45°	VX700
8BV-17604-70	47°	
8BV-17604-90	39°	

⑥ Primary spring

A Parts No.	B Spring rate N/mm (kg/mm)	C Preload (kg)	D Color	E Wire gauge (mm)	F Outside diameter (mm)	G No. of coils	H Free length (mm)	I Standard
90501-481J1	9.8 (1.0)	196.1 (20)	S-B-S	4.8	60	5.16	85.4	
90501-487G8	14.7 (1.5)	147 (15)	G	4.8	60	4.19	75.4	
90501-507G2	14.7 (1.5)	196.1 (20)	G-B-G	5.0	60	4.61	78.7	
90501-524G5	14.7 (1.5)	245 (25)	G-Y-G	5.2	60	5.08	82.1	
90501-507G7	17.1 (1.75)	147 (15)	R-G-R	5.0	60	4.24	74.0	
90501-524G4	17.1 (1.75)	245 (25)	R-Y-R	5.2	60	4.64	79.7	
90501-526J9	17.2 (1.75)	294 (30)	R-P-R	5.2	48	4.77	82.5	
90501-527G1	17.2 (1.75)	196.1 (20)	R-B-R	5.2	60	4.65	76.8	
90501-525J8	19.6 (2.0)	294 (30)	B-P-B	5.2	48	4.43	80.4	
90501-526G4	19.6 (2.0)	147 (15)	B-G-B	5.2	60	4.32	72.9	
90501-553G0	19.6 (2.0)	245 (25)	B-Y-B	5.5	60	5.10	78.0	
90501-556G6	19.6 (2.0)	196.1 (20)	B	5.5	60	4.95	75.4	
90501-550J8	22 (2.25)	294 (30)	W-P-W	5.5	60	4.62	78.7	VX500
90501-553G6	22 (2.25)	245 (25)	W-Y-W	5.5	60	4.61	76.5	
90501-555J9	22 (2.25)	343 (35)	W-S-W	5.5	48	4.66	81.0	VX700
90501-556G5	22 (2.25)	196.1 (20)	W-B-W	5.5	60	4.62	74.3	
90501-557G6	22 (2.25)	147 (15)	W-G-W	5.5	60	4.62	72.1	
90501-556G7	24.5 (2.5)	196.1 (20)	Y-G-Y	5.5	60	4.36	73.4	
90501-581J7	24.5 (2.5)	245 (25)	Y	5.8	60	4.96	75.4	
90501-582J1	24.5 (2.5)	294 (30)	Y-P-Y	5.8	60	4.96	77.4	
90501-586J0	24.5 (2.5)	343 (35)	Y-S-Y	5.8	48	4.91	79.4	
90501-605G7	26.8 (2.74)	235 (24)	G-Y-G	6.0	60	5.00	74.1	
90501-585J3	27 (2.75)	294 (30)	G-P-G	5.8	48	4.64	76.3	
90501-607G0	27 (2.75)	196.1 (20)	G-B-G	6.0	60	5.12	72.7	
90501-607G4	27 (2.75)	147 (15)	Gr-g-Gr	6.0	60	5.12	70.9	
90501-602J0	29.4 (3.0)	294 (30)	P	6.0	60	4.74	75.4	
90501-604G0	29.4 (3.0)	235 (24)	P-Y-P	6.0	60	4.80	73.3	
90501-606G9	29.4 (3.0)	196.1 (20)	P-B-P	6.0	60	4.86	72.1	
90501-607G3	29.4 (3.0)	147 (15)	P-G-P	6.0	60	4.86	70.4	
90501-605J5	31.9 (3.25)	294 (30)	Or-P-Or	6.0	48	4.53	74.6	

Color
B– Blue G– Gold Gr– Green Or– Orange P– Pink R– Red
S– Silver W– White Y– Yellow



FRONT SUSPENSION

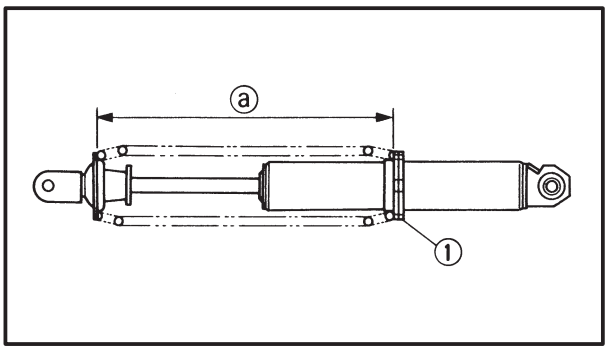
Spring preload (700)

1. Adjust:
   - Turn the adjusting ring ① to the proper position.

Spring adjuster position	1	2	3	4	5
Preload	Softer ←				→ Harder
Standard	1				

CAUTION:

Be sure that the left and right spring preload is the same.



Spring preload (500)

1. Adjust:
   - Turn the spring seat ① in or out.

Spring seat distance	Standard		
	Shorter ←		→ Longer
Preload	Harder ←		→ Softer
ⓐ Length	Max. 213 mm (8.39 in)	223 mm (8.78 in)	Min. 233 mm (9.17 in)

⚠ WARNING

This shock absorber contains highly pressurized nitrogen gas.
Do not tamper with or attempt to open the shock absorber assembly.
Do not subject the shock absorber assembly to an open flame or high temperature, as this could cause it to explode.

CAUTION:

Be sure that the left and right spring preload is the same.

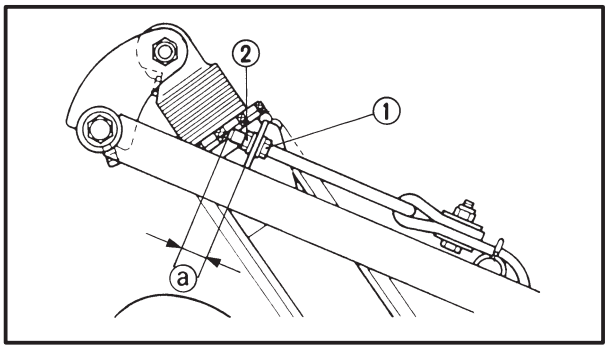
REAR SUSPENSION

Stopper band

1. Adjust:
   • Stopper band tension

CAUTION:

Be sure that the left and right length is the same.



NOTE:

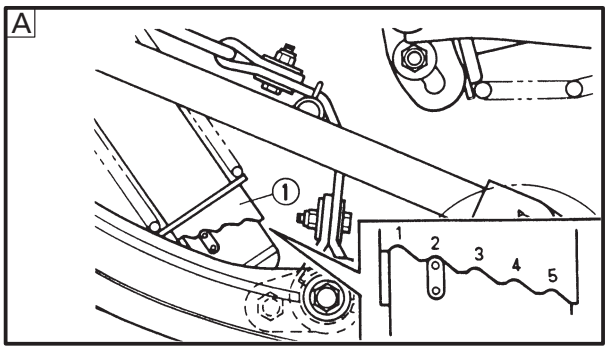
This adjustment affects the handling characteristics of the machine.

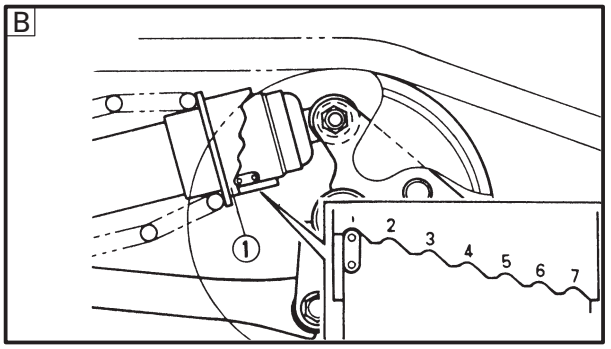
Adjustment steps:

- Loosen the locknut ①.
- Turn the adjusting nut ② in or out to adjust the stopper band tension.

Adjuster Thread length	Longer ← maximum STD	→ Shorter minimum
	500	15 mm (0.59 in)
	700	10 mm (0.39 in)
Effects	More weight on skis. Less weight transfer	Less weight on skis. More weight transfer

- Tighten the locknut.





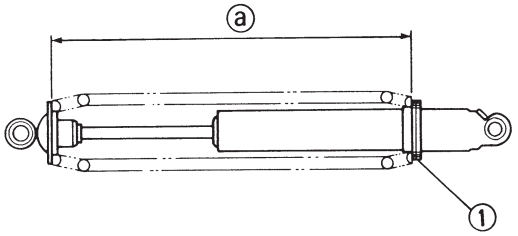
Spring preload (700)

1. Adjust:
   • Turn the adjusting ring ① to the proper position.

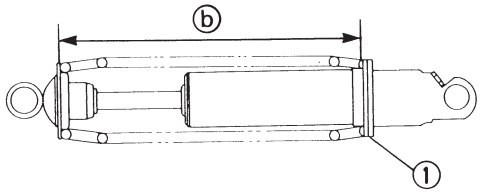
Spring adjuster position	1	2	3	4	5
Preload	Softer ←				→ Harder
A Standard (front)	1				

Spring adjuster position	1	2	3	4	5	6	7
Preload	Softer ←						→ Harder
B Standard (rear)	2						

A



B



Spring preload (500)

1. Adjust:
   - Turn the spring seat ① in or out.

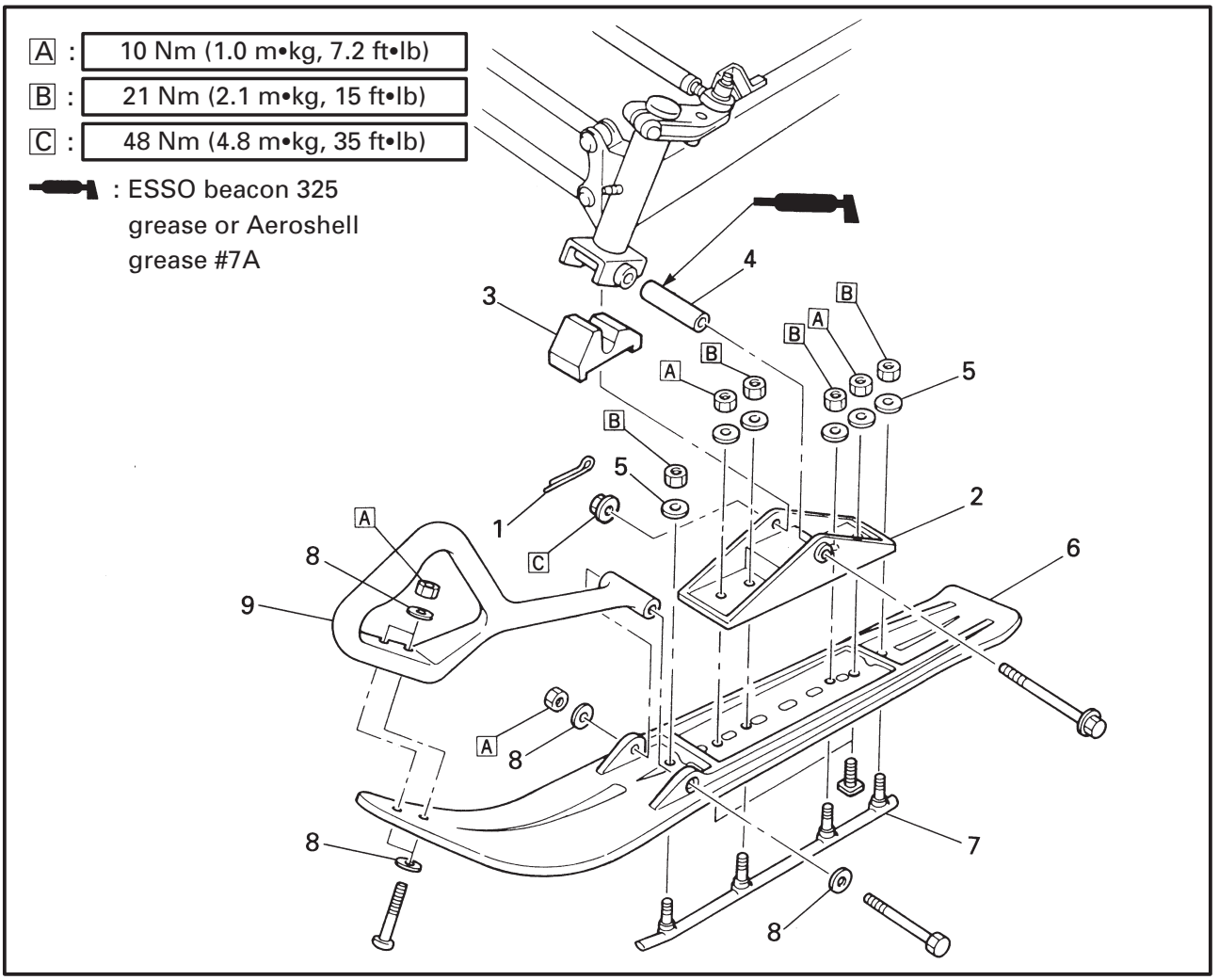
Spring seat distance	Standard Shorter ← → Longer		
Preload	Harder ←		→ Softer
A Length ⓐ (front)	Max. 172 mm (6.77 in)	182 mm (7.17 in)	Min. 192 mm (7.56 in)
B Length ⓑ (rear)	Max. 302 mm (11.89 in)	312 mm (12.28 in)	Min. 322 mm (12.68 in)

⚠ WARNING

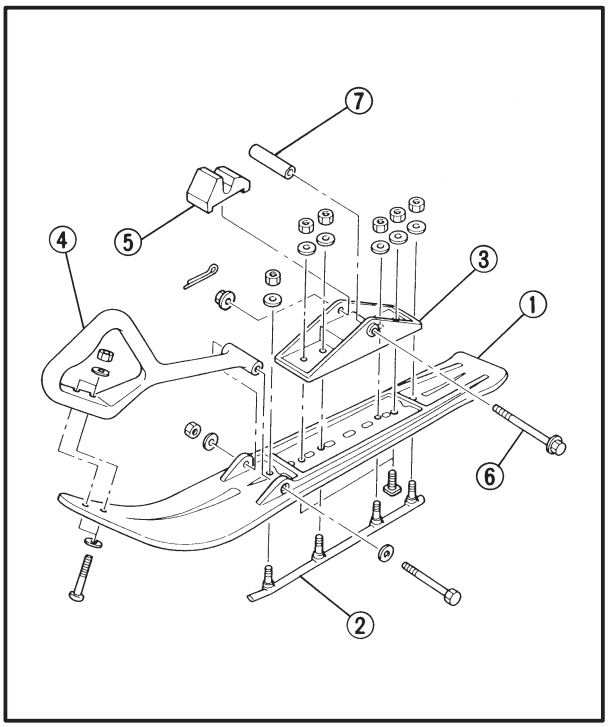
This shock absorber contains highly pressurized nitrogen gas.
Do not tamper with or attempt to open the shock absorber assembly.
Do not subject the shock absorber assembly to an open flame or high heat, which could cause it to explode.

CHASSIS

SKI (500)



Order	Job name/Part name	Q'ty	Remarks
	Ski removal		Remove the parts in the order below.
1	Cotter pin	1	
2	Ski column lower bracket	1	
3	Ski stopper	1	
4	Collar	1	
5	Washers	6	
6	Ski	1	
7	Ski runner	1	
8	Washers	6	
9	Ski handle	1	
			For installation, reverse the removal procedure.



INSPECTION

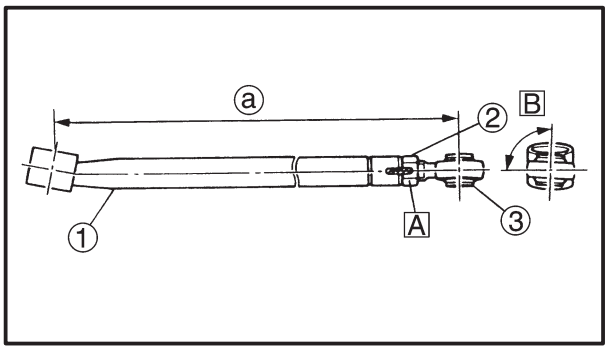
1. Inspect:
   - Ski ①
   - Ski runner ②
   - Ski column lower bracket ③
   - Ski handle ④
   - Ski stopper ⑤
     Wear/cracks/damage → Replace.
   - Mounting bolt ⑥
   - Collar ⑦
     Wear/damage → Replace.

FRONT SUSPENSION

⚠ WARNING

This shock absorber contains highly compressed nitrogen gas. Before handling the shock absorber read and make sure that you understand the following information. The manufacturer cannot be held responsible for property damage or personal injury that may result from improper handling.

- **Do not tamper or attempt to open the gas chamber.**
- **Do not subject the shock absorber to an open flame or any other source of high heat. This may cause the unit to explode due to excessive gas pressure.**
- **Do not deform or damage the gas chamber in any way. Gas chamber damage will result in poor damping performance.**



INSTALLATION

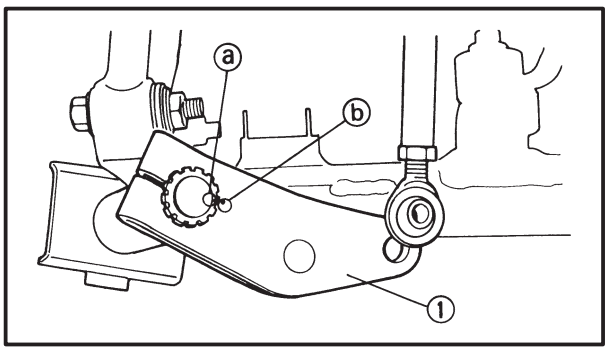
1. Install:
   - Control rod ①
   - Nut ②
   - Joint ③

ⓐ Set length

C Model		D Left hand	
		F Set length ⓐ (mm)	B Set angle (°)
VX500	H Upper	460.2 ± 0.5 mm (18.11 ± 0.0197 in)	94 ± 1
	I Lower	458.7 ± 0.5 mm (18.059 ± 0.0197 in)	94 ± 1
VX700	H Upper	475.5 ± 0.5 mm (18.012 ± 0.0197 in)	93 ± 1
	I Lower	472.6 ± 0.5 mm (18.606 ± 0.0197 in)	93 ± 1

C Model		E Right hand	
		F Set length ⓐ (mm)	B Set angle (°)
VX500	H Upper	460.2 ± 0.5 mm (18.11 ± 0.0197 in)	86 ± 1
	I Lower	458.7 ± 0.5 mm (18.059 ± 0.0197 in)	86 ± 1
VX700	H Upper	475.5 ± 0.5 mm (18.012 ± 0.0197 in)	87 ± 1
	I Lower	472.6 ± 0.5 mm (18.606 ± 0.0197 in)	87 ± 1

A 14 mm = 62 ~ 84 Nm (6.2 ~ 8.4 m•kg, 45 ~ 60 ft•lb)

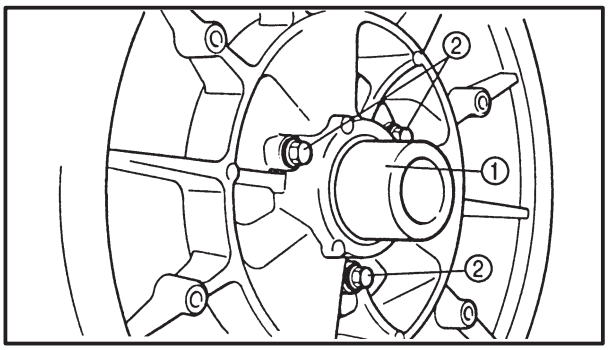


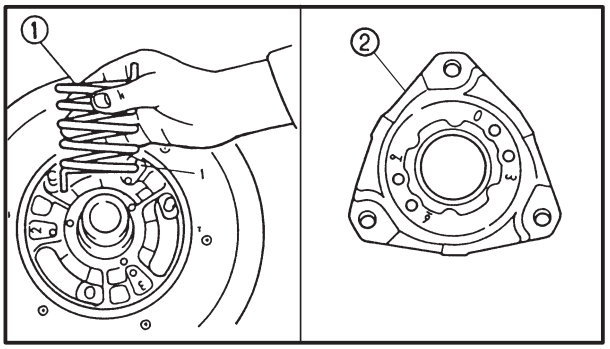
2. Install:
   - Steering arm ①

NOTE:

Align the punch mark ⓐ on the ski column with the punch mark ⓑ on the steering arm.

Nut (steering arm):
54 Nm (5.4 m•kg, 38 ft•lb)





ASSEMBLY

1. Install:
   - Secondary sheave spring ①
   - Bolts ②
     (along with the shims)

	Bolt: **10 Nm (1.0 m•kg, 7.2 ft•lb)**

2. Install:
   - Stopper
   - Sliding sheave

	Screw (stopper): **6.5 Nm (0.65 m•kg, 4.6 ft•lb)**

3. Install:
   - Secondary sheave spring ①
   - Spring seat ②

NOTE:

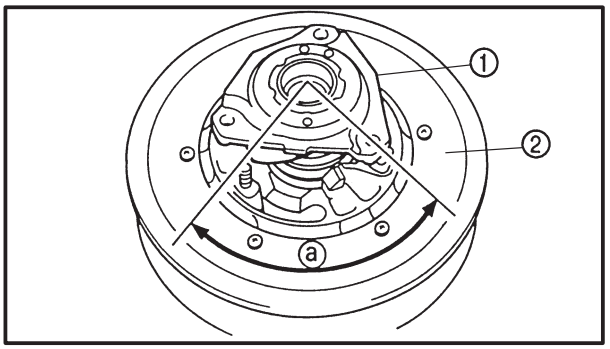
Hook the end of the secondary sheave spring into the spring holes in the fixed sheave. Hook the other end of the spring into the holes in the spring seat.

Standard spring position:

500 3-6
700 3-3

Installation steps:

- Hold the spring seat ① and turn the sliding sheave ② counterclockwise to the specified angle ⓐ.

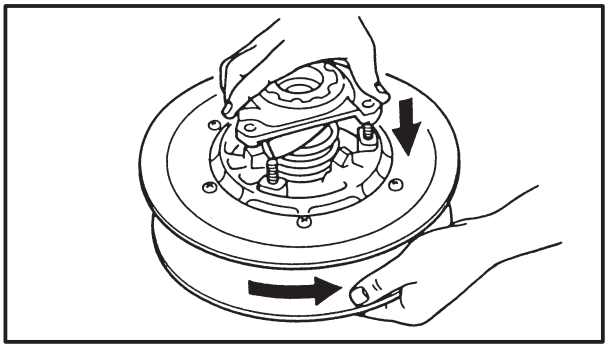


NOTE:

The holes in the spring seat should align with the bolts on the fixed sheave.

ⓐ = (sheave side hole number + spring seat hole number) × 10

	Standard angle: **500 90°** **700 60°**

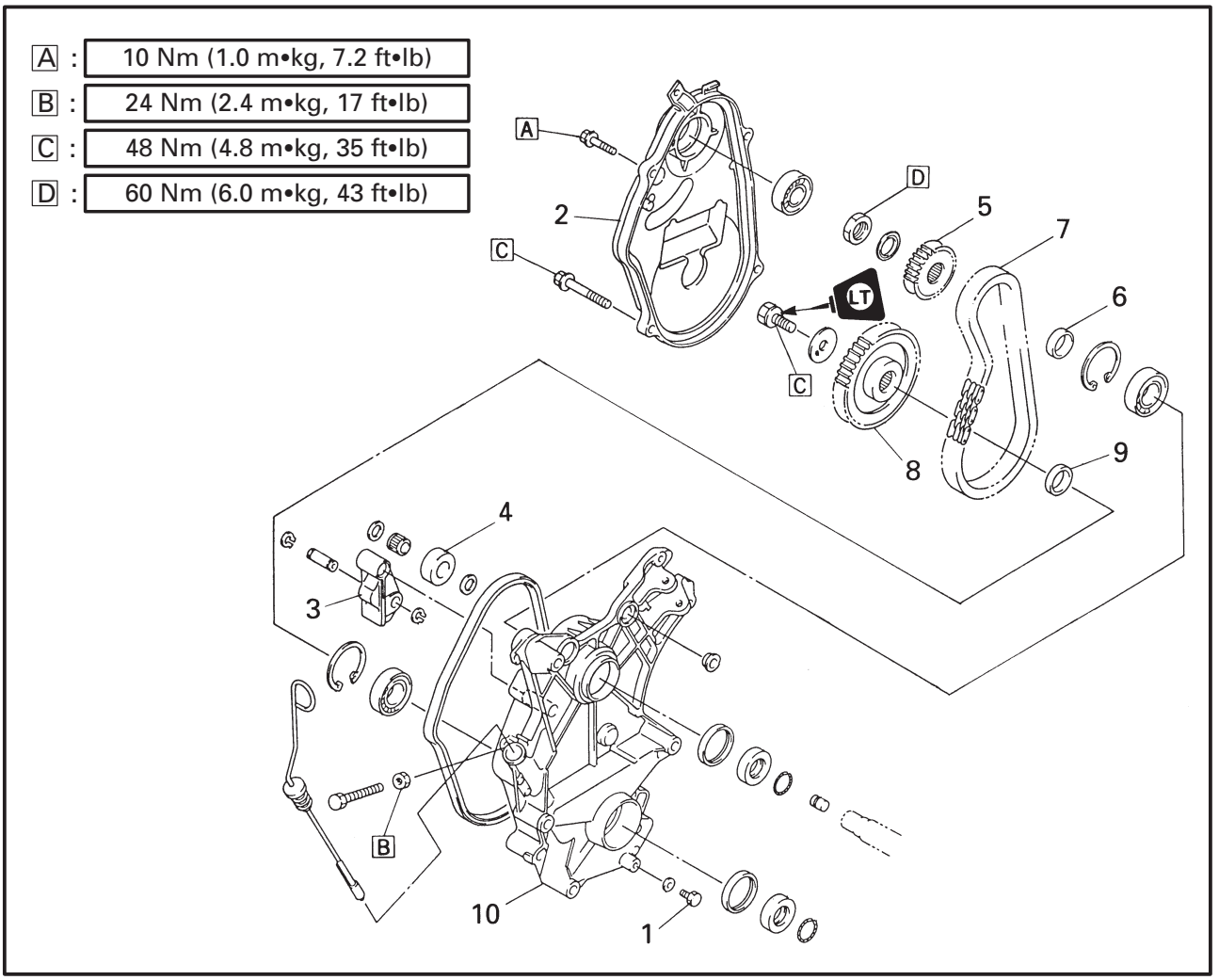


- Push down on the spring seat until the bolts come through the holes.
- While pushing down on the spring seat, install the nuts and tighten them to the specified torque.

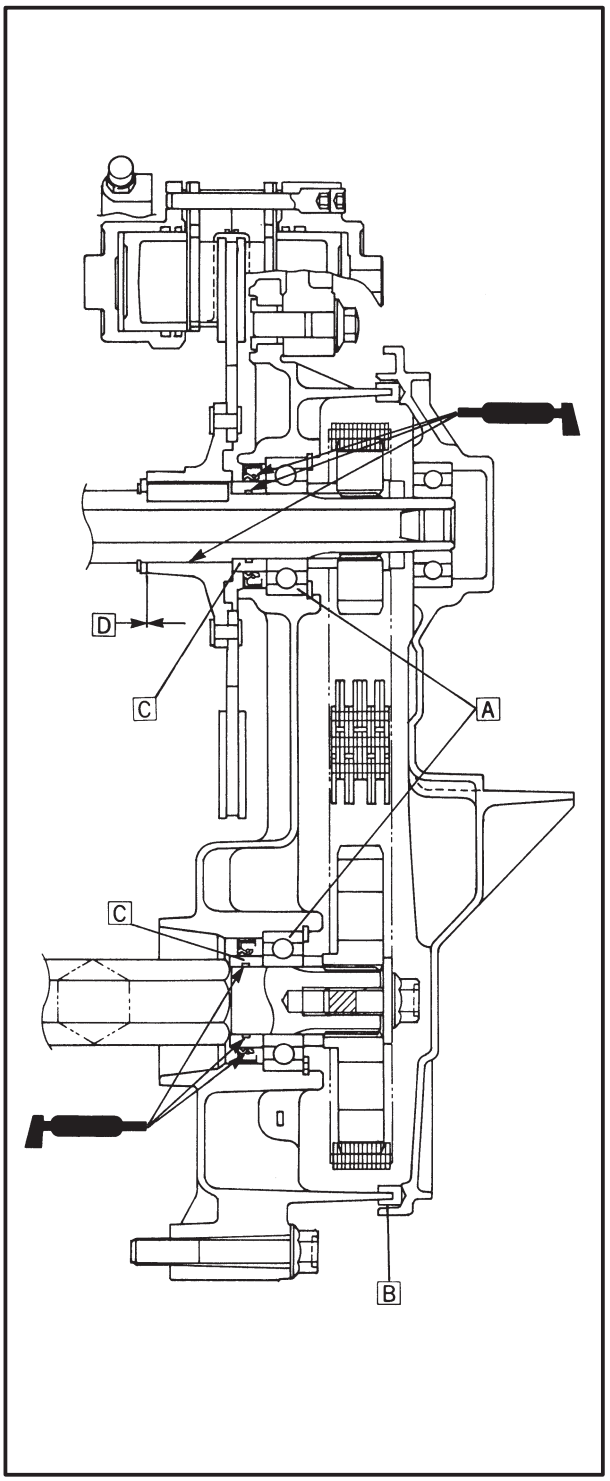
	Nut (spring seat): **23 Nm (2.3 m•kg, 17 ft•lb)**

DRIVE CHAIN HOUSING

WITHOUT REVERSE MODEL (500)



Order	Job name/Part name	Q'ty	Remarks
	Drive chain housing removal		Remove the parts in the order below.
	Brake caliper		Refer to "BRAKE".
	Parking brake		
	Tension adjuster		Loosen. Refer to "SLIDE RAIL SUSPENSION".
1	Bolt	1	Oil drain.
2	Drive chain housing cover	1	
3	Chain tensioner	1	
4	Roller	1	
5	Drive sprocket	1	
6	Collar	1	
7	Drive chain	1	
8	Driven sprocket	1	
9	Collar	1	
10	Drive chain housing	1	
			For installation, reverse the removal procedure.



INSTALLATION

During installation, pay attention to the following point:

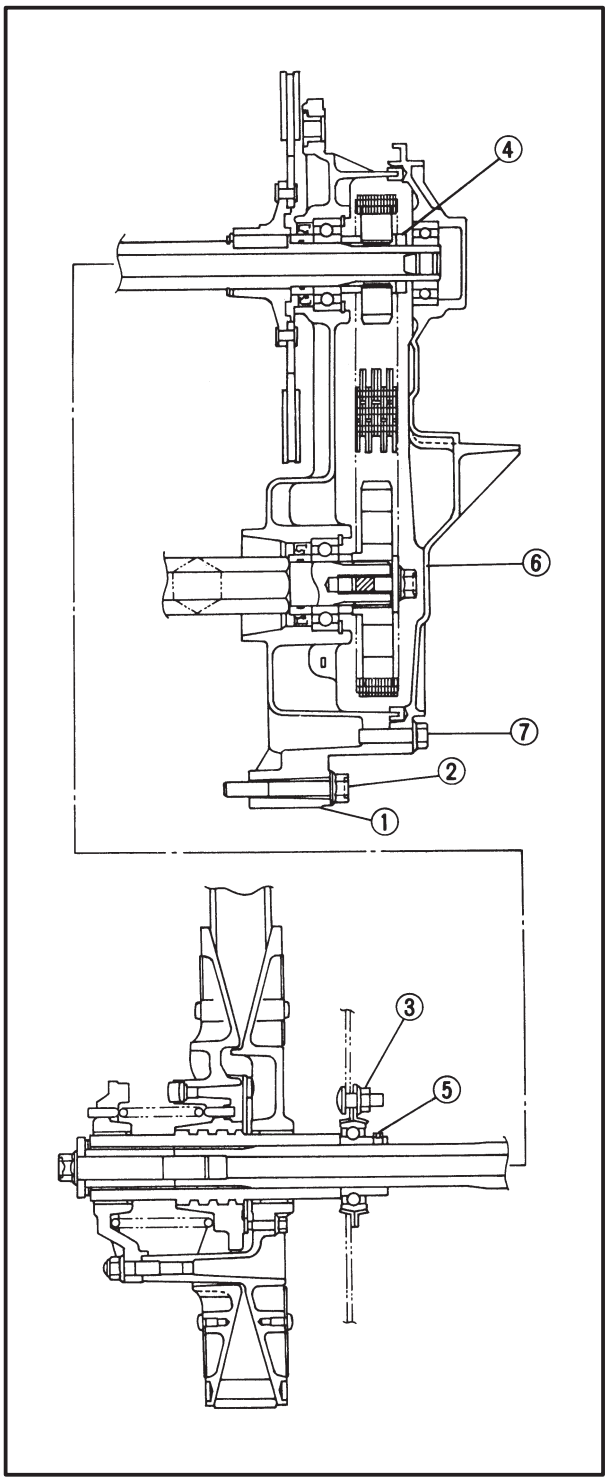
A Make sure that the bearing seals face towards the drive chain, as shown.

B Properly install the rubber seal onto the drive chain housing, making sure that these are no gaps.

C Be sure to install the spacers in their original positions of the brake disc and jackshaft will stick.

D 0.1 ~ 0.5 mm (0.004 ~ 0.020 in)

: ESSO beacon 325 grease or Aeroshell grease #7A



DRIVE CHAIN HOUSING AND JACKSHAFT INSTALLATION

1. Install:
   - Drive chain housing
   - Jackshaft

Installation steps:

- Install the drive chain housing ①.
- Tighten the bolts ②.

	Bolt (drive chain housing): **48 Nm (4.8 m•kg, 35 ft•lb)**

- Temporarily tighten the nuts ③.
- Tighten the nuts ③.

	Nut (jackshaft): **60 Nm (6.0 m•kg, 43 ft•lb)**

- Retighten the nuts ③.

	Nut (bearing holder): **23 Nm (2.3 m•kg, 17 ft•lb)**

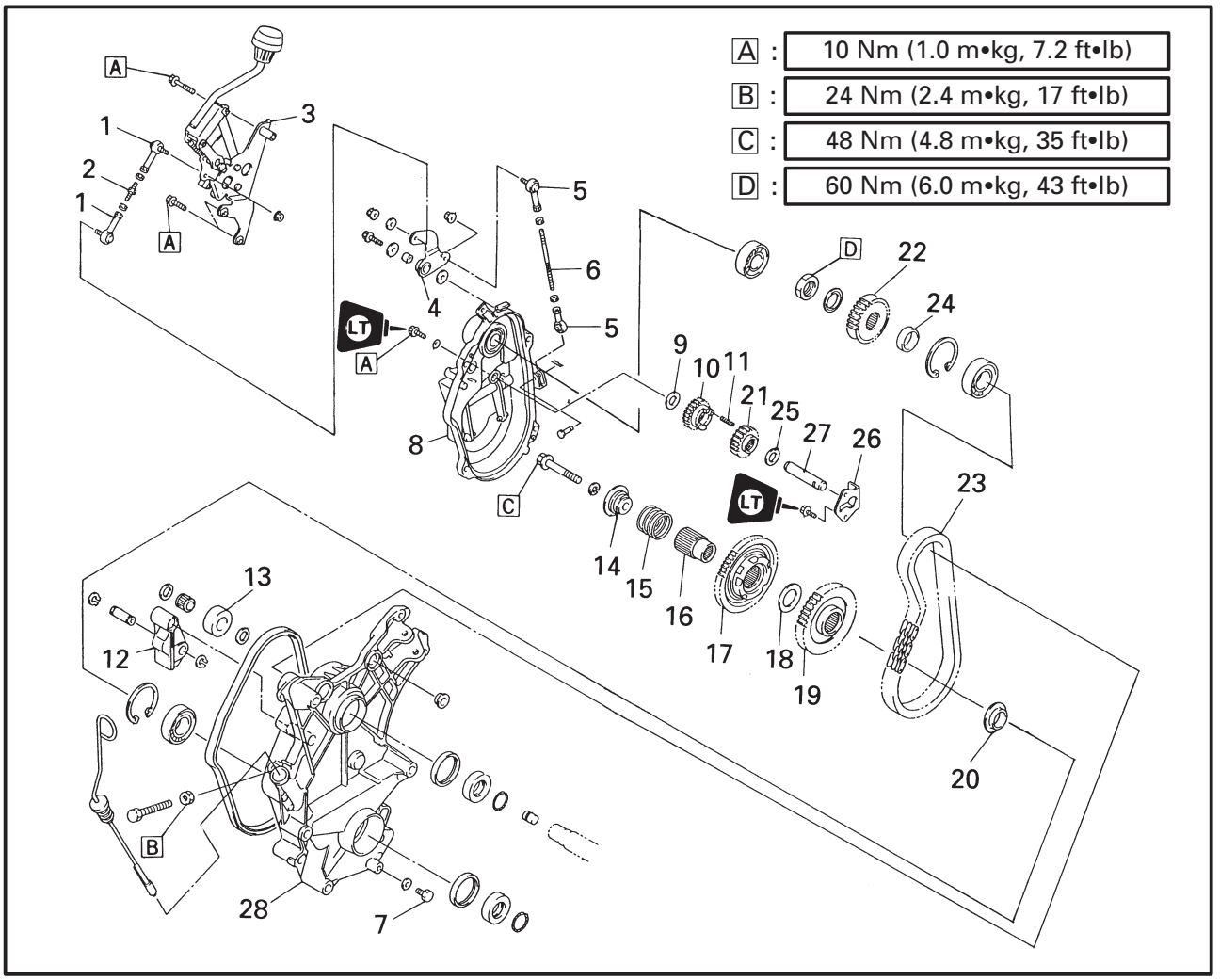
- Tighten the set screws ⑤.

	Set screw (bearing): **8.5 Nm (0.85 m•kg, 6.1 ft•lb)**

- Install the drive chain housing cover ⑥.
- Tighten the bolts ⑦.

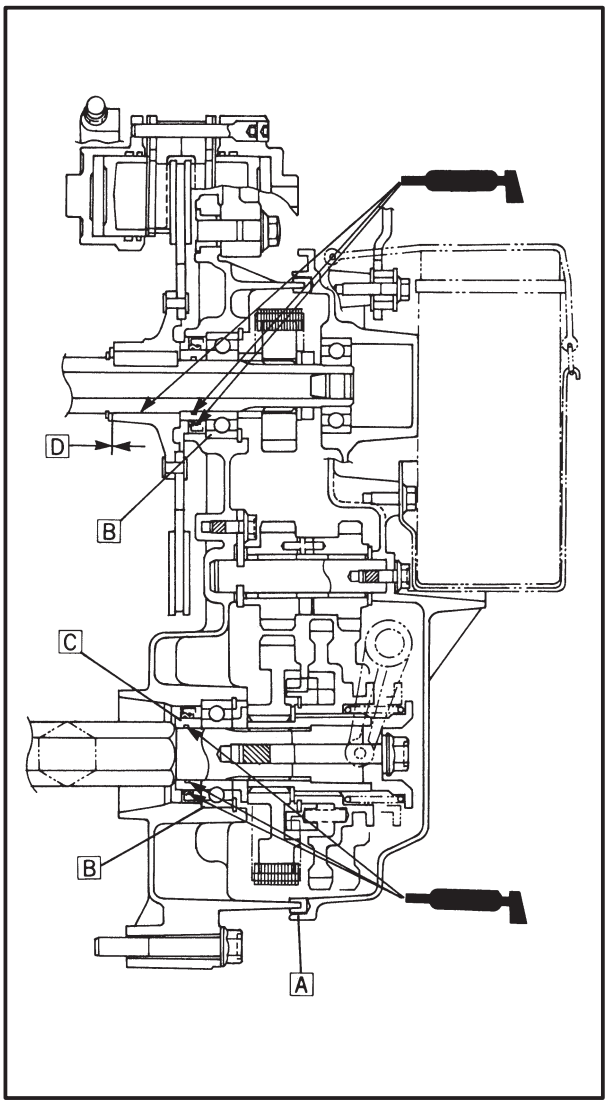
	Bolt (drive chain housing cover): **24 Nm (2.4 m•kg, 17 ft•lb)**

WITH REVERSE MODEL (700)



Order	Job name/Part name	Q'ty	Remarks
	Drive chain housing removal		Remove the parts in the order below.
	Battery		
	Battery bracket		
	Brake caliper		Refer to "BRAKE".
	Parking brake		
	Tension adjuster		Loosen. Refer to "SLIDE RAIL SUSPENSION".
1	Joints	2	
2	Shift rod	1	
3	Shift lever assembly	1	
4	Lever	1	
5	Joints	2	
6	Lever rod	1	Oil drain.
7	Bolt	1	
8	Drive chain housing cover	1	
9	Washer	1	

Order	Job name/Part name	Q'ty	Remarks
10	Reverse drive gear	1	
11	Spring	1	
12	Chain tensioner	1	
13	Roller	1	
14	Collar	1	
15	Spring	1	
16	Journal	1	
17	Reverse driven gear	1	
18	Washer	1	
19	Forward driven sprocket	1	
20	Collar	1	
21	Counter gear	1	
22	Drive sprocket	1	
23	Drive chain	1	
24	Collar	1	
25	Washer	1	
26	Plate	1	
27	Shaft	1	
28	Drive chain housing	1	For installation, reverse the removal procedure.



INSTALLATION

During installation, pay attention to the following point:

A Properly install the rubber seal onto the drive chain housing, making sure that these are no gaps.

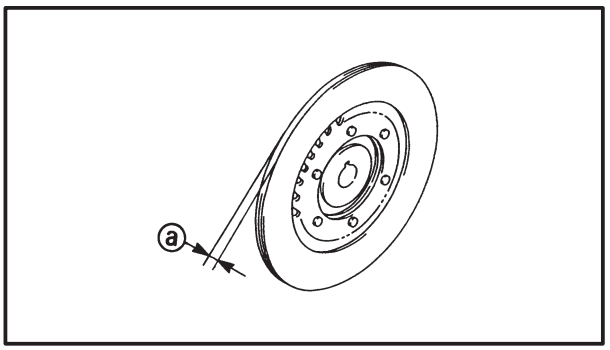
B Make sure that the bearing seals face towards the drive chain, as shown.

C Be sure to install the spacers in their original positions of the brake disc and jackshaft will stick.

D 0.1 ~ 0.5 mm (0.004 ~ 0.020 in)

: ESSO beacon 325 grease or Aeroshell grease #7A

Drive chain housing and jackshaft installation steps refer to the "WITH OUT REVERSE MODEL".



JACKSHAFT

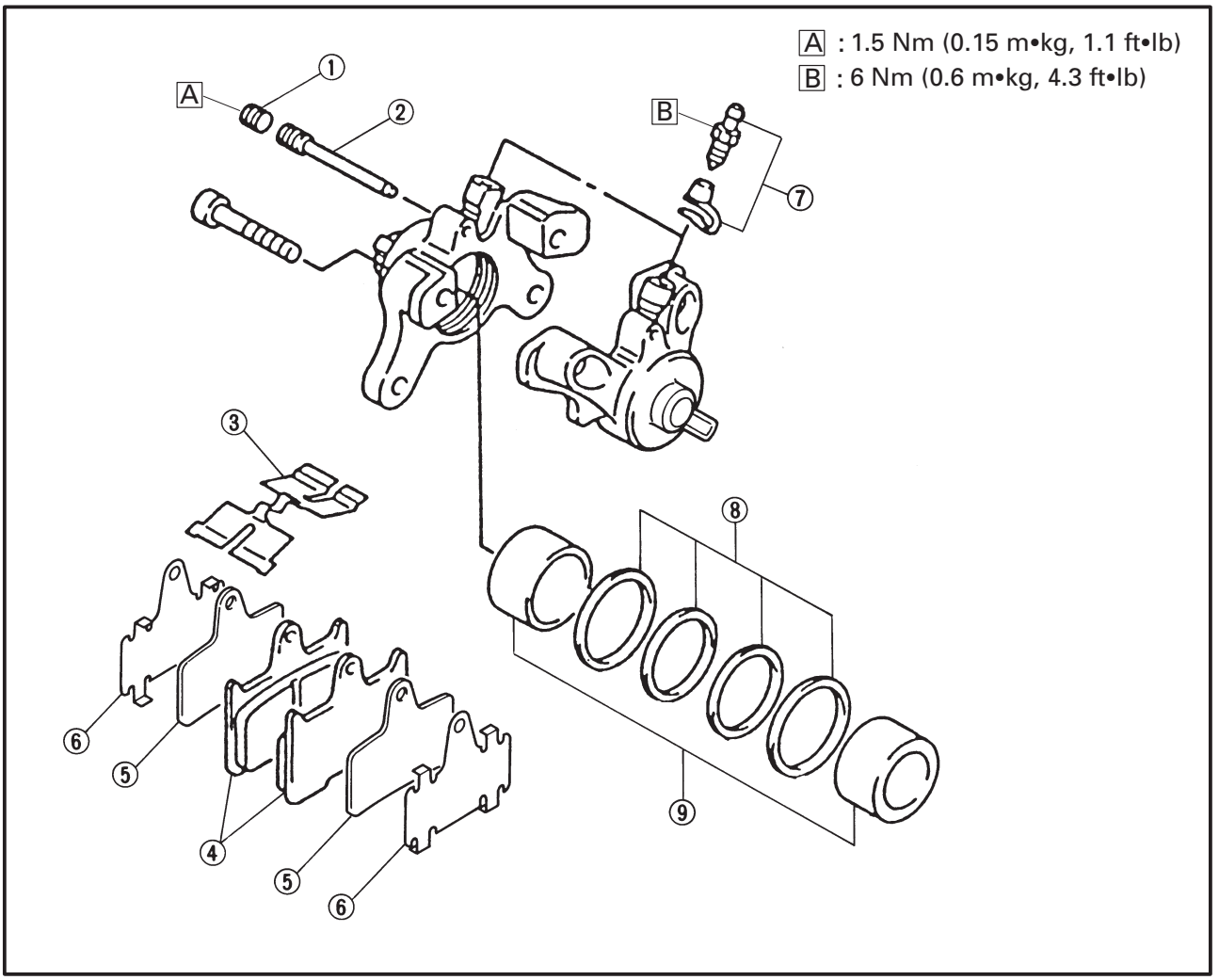
INSPECTION

1. Measure:
   • Brake disc thickness ⓐ
   Out of specification → Replace.

	Minimum thickness: **10 mm (0.39 in)**

Measuring point 1 ~ 3

BRAKE



Order	Job name/Part name	Q'ty	Remarks
	Brake caliper disassembly		Disassembly the parts in the order below.
①	Cap bolt	1	
②	Retaining pin	1	
③	Pad spring	1	
④	Brake pads	2	
⑤	Shim 1	2	
⑥	Shim 2	2	
⑦	Bleed screws	2	
⑧	Oil seals	4	
⑨	Pistons	2	
			For assembly, reverse the disassembly procedure.

CAUTION:

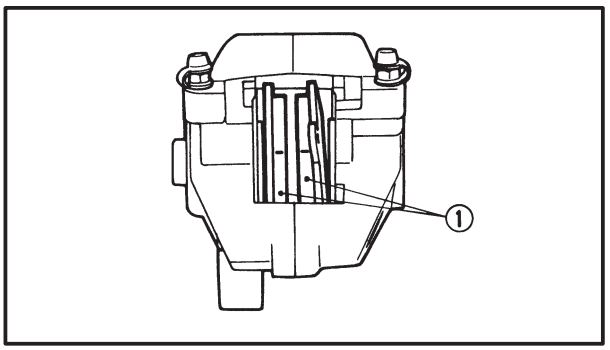
Disc brake components rarely require disassembly. DO NOT:

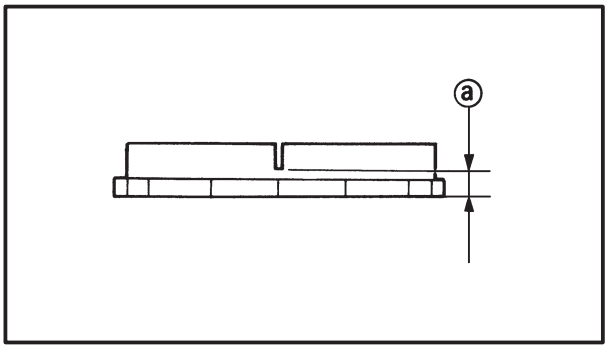
- **Disassemble components unless absolutely necessary.**
- **Use solvents on internal brake components.**
- **Use contaminated brake fluid for cleaning.**
  Use only clean brake fluid.
- **Allow brake fluid to come in contact with the eyes, otherwise eye injury may occur.**
- **Allow brake fluid to contact painted surfaces or plastic parts otherwise damage may occur.**
- **Disconnect any hydraulic connection ofherwise the entie system must be disassembled, drained, cleaned, and then properly filled and bled after reassembly.**

BRAKE PAD REPLACEMENT

NOTE:

It is not necessary to disassemble the brake caliper and brake hose to replace the brake pads.



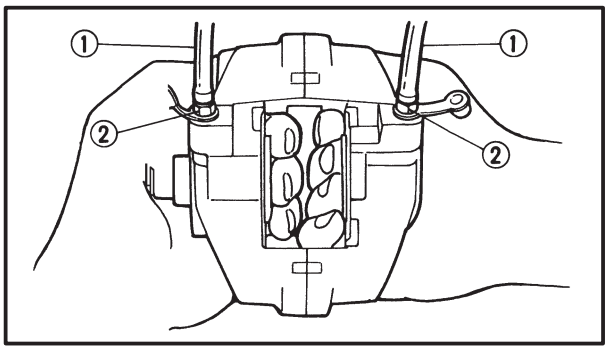


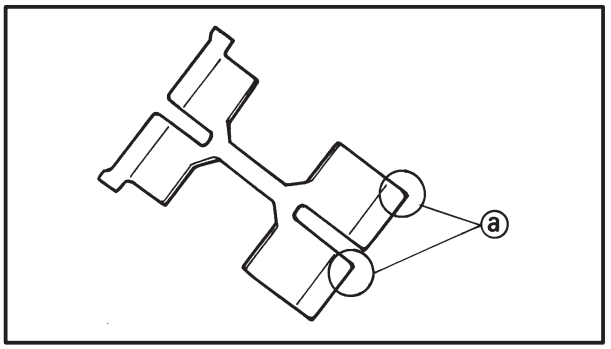
1. Remove:
   • Brake pads ①

NOTE:

- Do not depress the brake lever when the caliper or disc is off the machine otherwise the brake pads will be forced shut.
- Install new brake pad spring and shims when the brake pads have to be replaced.
- Replace the pads as a set if either is found to be worn to the wear limit ⓐ.

Wear limit ⓐ:
4.7 mm (0.185 in)





2. Install:
   - Brake pads
   - Pad spring

Installation steps:

- Connect a suitable hose ① tightly to the caliper bleed screw ②. Put the other end of this hose into an open container.
- Loosen the caliper bleed screw and push the pistons into the caliper with the finger.
- Tighten the caliper bleed screw ②.

	**Bleed screw:** **6 Nm (0.6 m•kg, 4.3 ft•lb)**

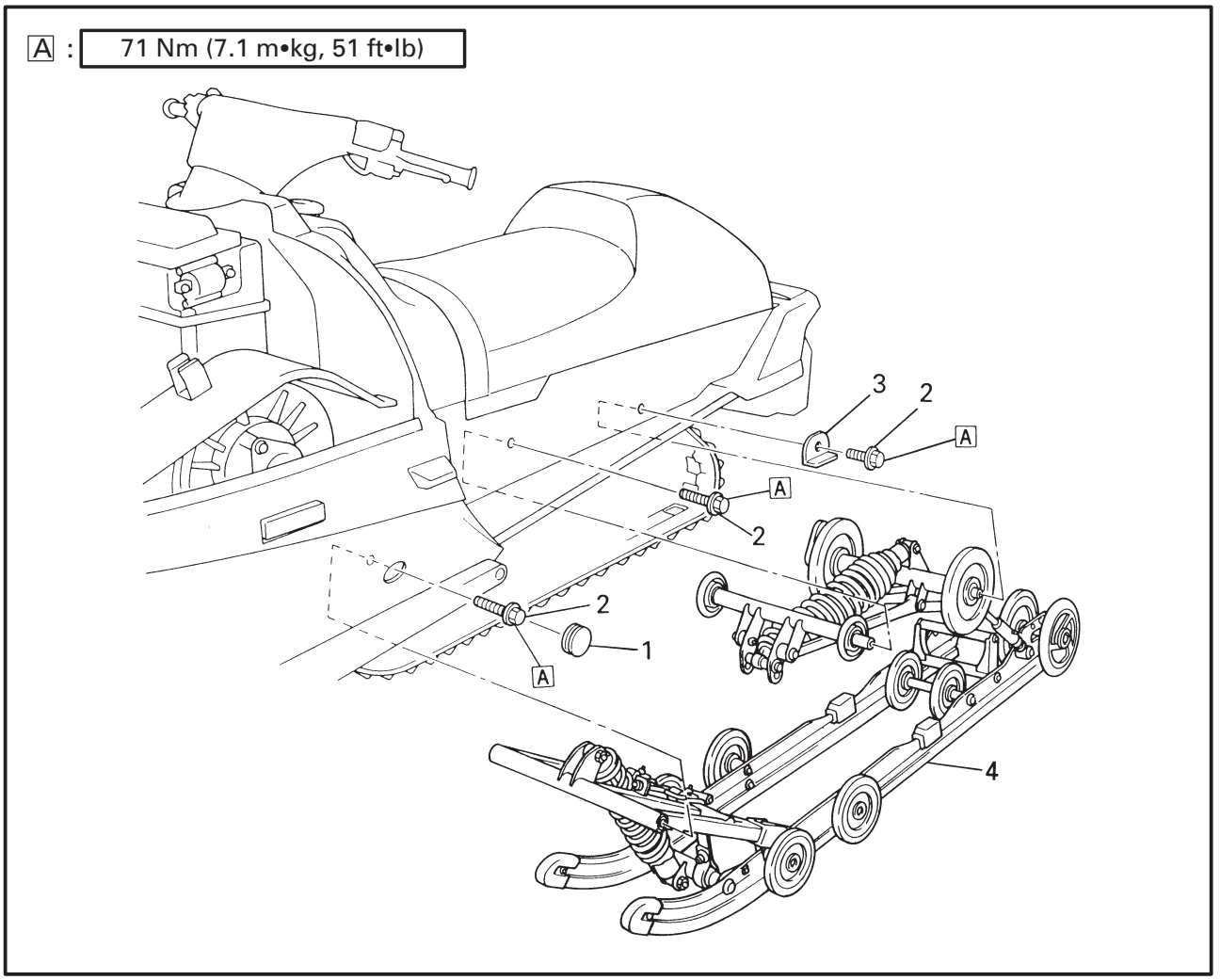
- Install the brake pads and pad spring.

NOTE:

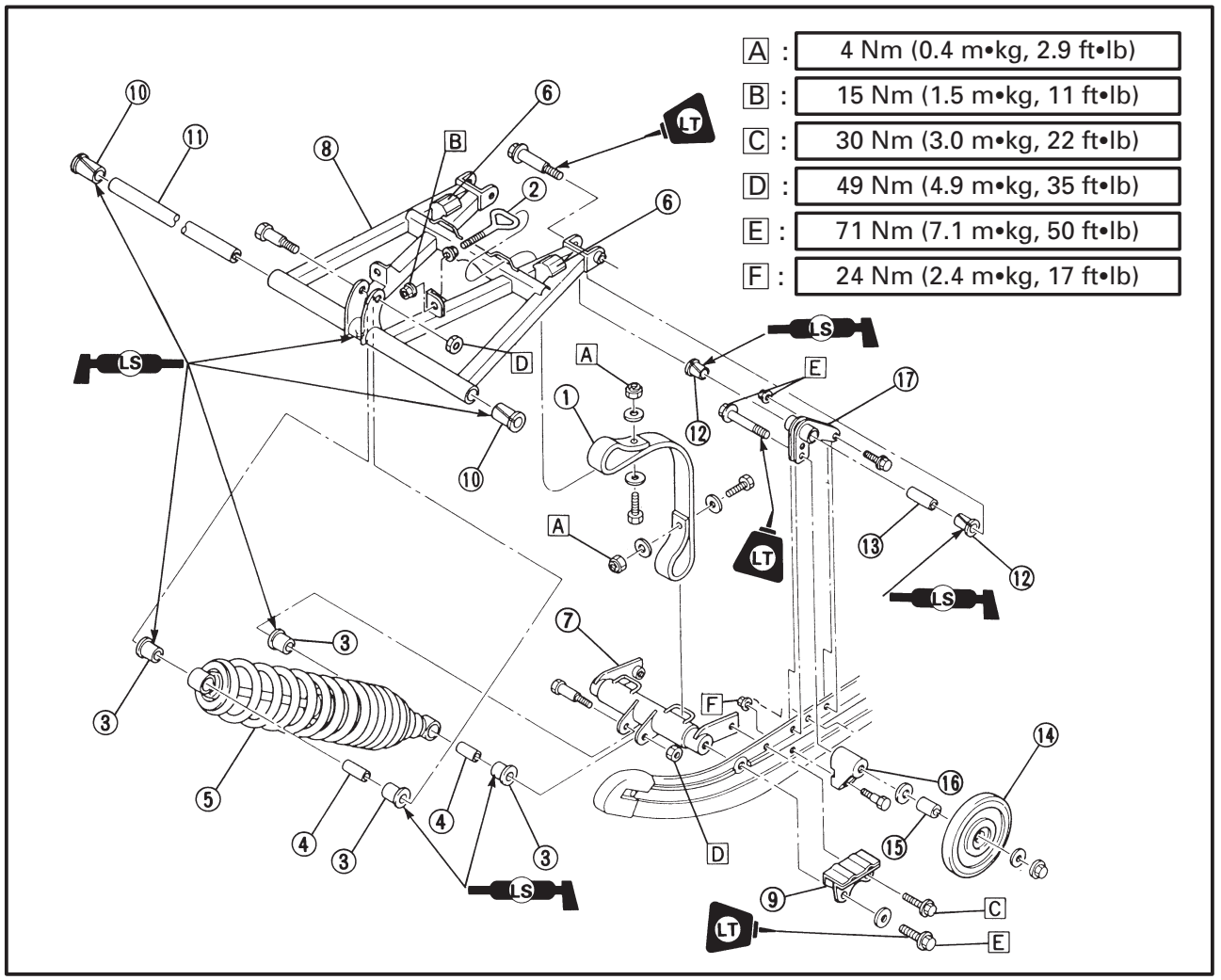
The tangs ⓐ of the pad spring must point in the direction of the disc rotation.

3. Inspect:
   - Brake fluid level
     Refer to "BRAKE FLUID LEVEL INSPECTION".
4. Check:
   - Brake lever operation
     A soft or spongy feeling → Bleed brake system.
     Refer to "AIR BLEEDING (HYDRAULIC BRAKE SYSTEM)".

SLIDE RAIL SUSPENSION

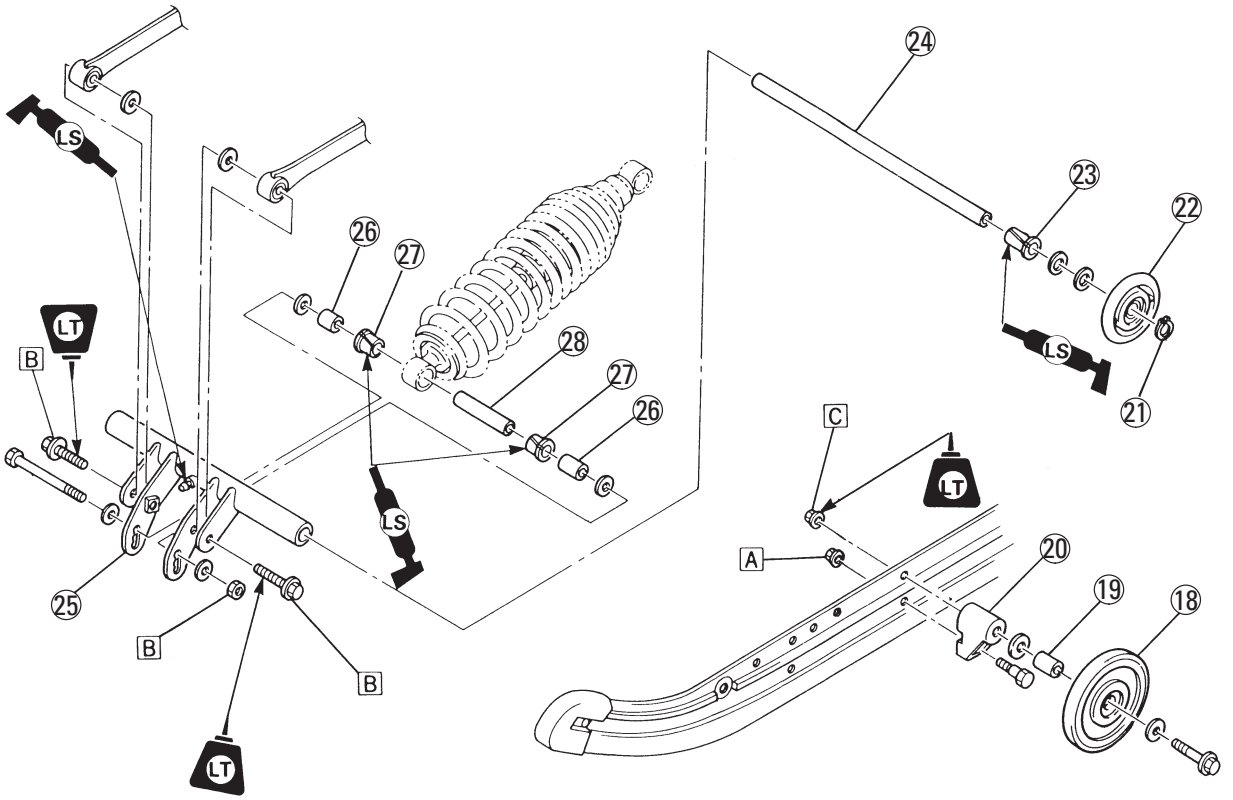


Order	Job name/Part name	Q'ty	Remarks
	Slide rail suspension removal		Remove the parts in the order below.
	Tension adjuster		Loosen.
1	Blind caps	2	
2	Bolts	6	
3	Washer	2	
4	Slide rail suspension	1	
			For installation, reverse the removal procedure.



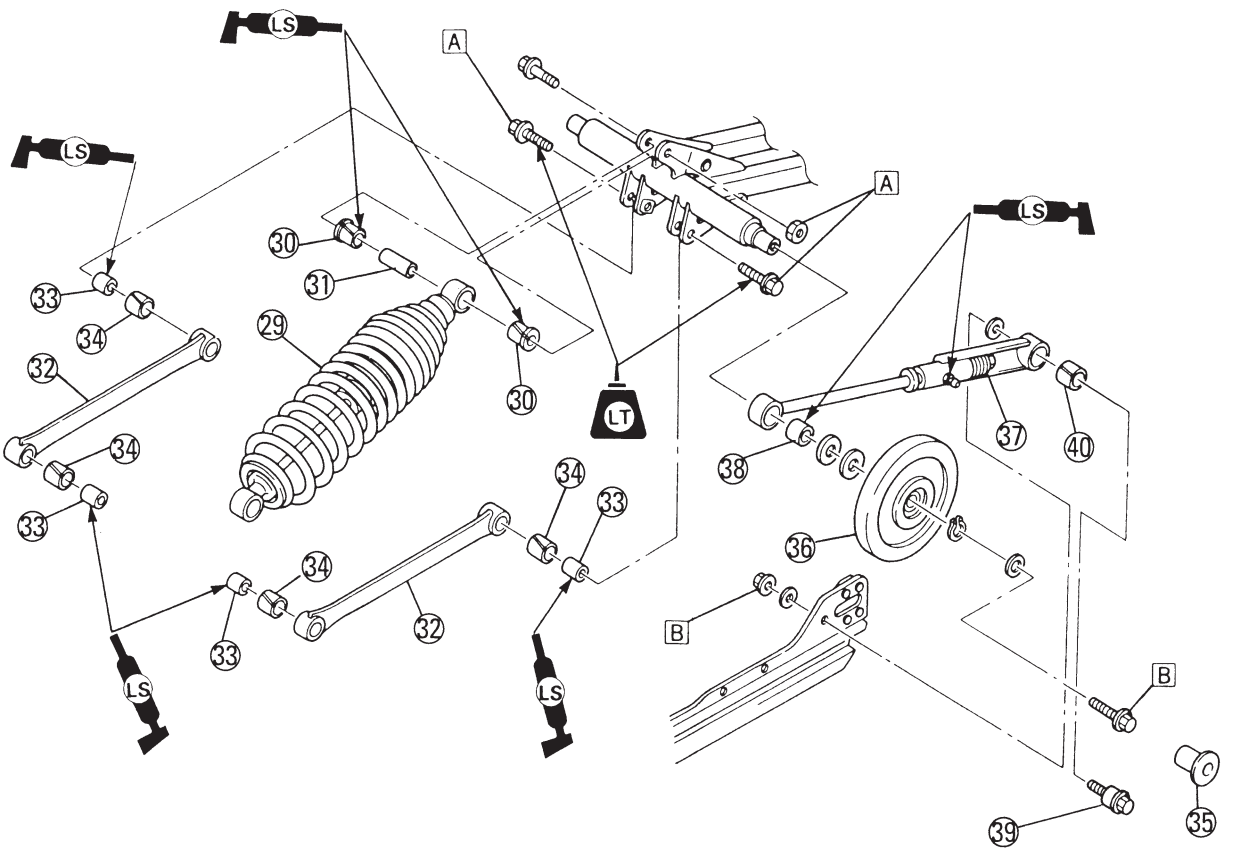
Order	Job name/Part name	Q'ty	Remarks
	Slide rail suspension disassembly		Disassemble the parts in the order below.
①	Stopper bands	2	
②	Hooks	2	
③	Bushings	4	
④	Collars	2	
⑤	Front shock absorber	1	
⑥	Rubber damper	2	(700)
⑦	Front suspension bracket	1	
⑧	Front pivot arm	1	
⑨	Bracket	2	(700)
⑩	Bushings	2	
⑪	Shaft	1	
⑫	Bushings	4	
⑬	Collars	2	
⑭	Suspension wheels	2	
⑮	Collar	2	
⑯	Wheel brackets	2	
⑰	Front pivot arm brackets	2	

A : 24 Nm (2.4 m•kg, 17 ft•lb)
B : 49 Nm (4.9 m•kg, 35 ft•lb)
C : 71 Nm (7.1 m•kg, 50 ft•lb)

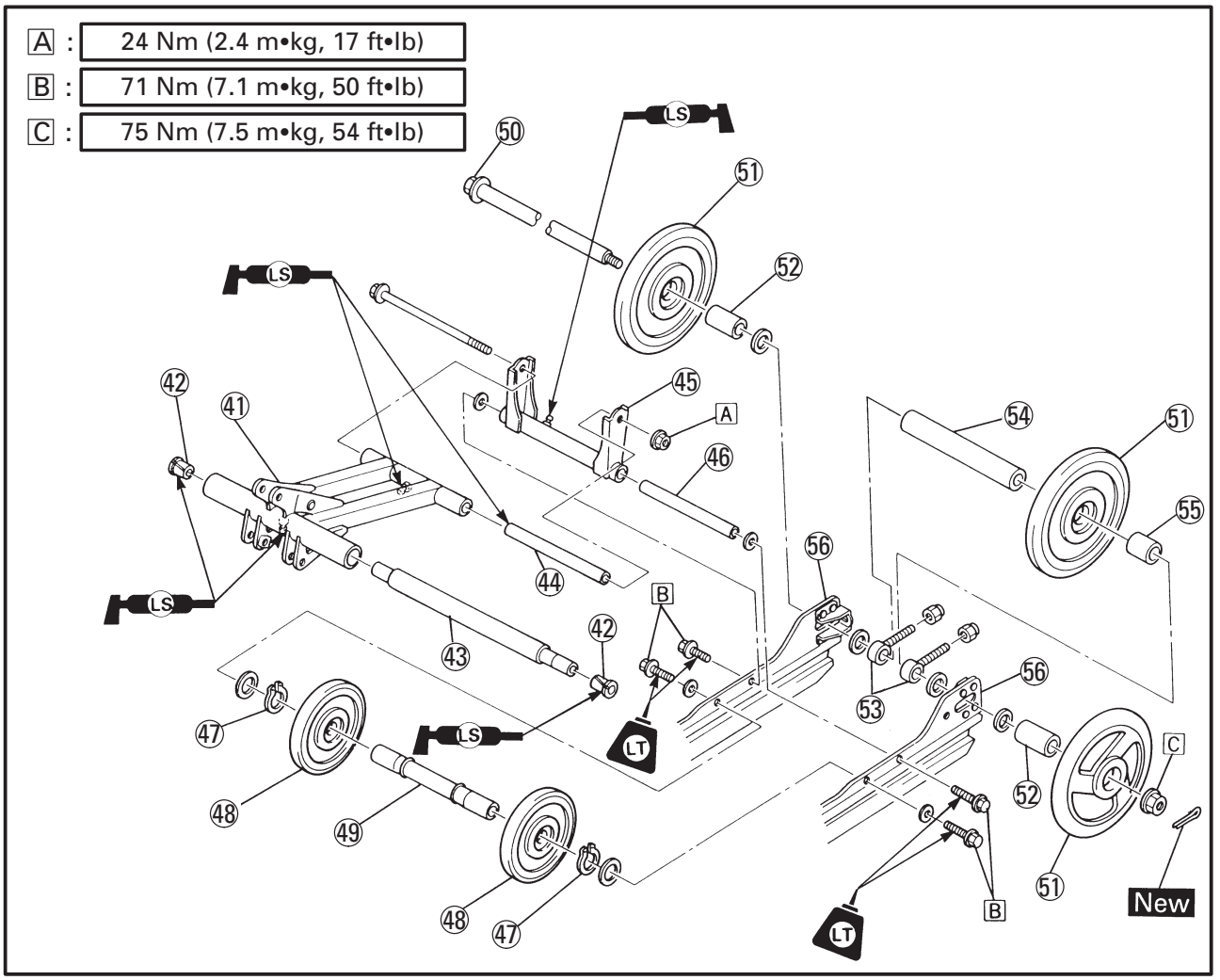


Order	Job name/Part name	Q'ty	Remarks
⑱	Suspension wheels	2	
⑲	Collar	2	
⑳	Wheel brackets	2	
㉑	Circlips	2	
㉒	Suspension wheels	2	
㉓	Bushings	2	
㉔	Shaft	1	
㉕	Rear suspension bracket	1	
㉖	Spacers	2	
㉗	Bushings	2	
㉘	Collar	1	

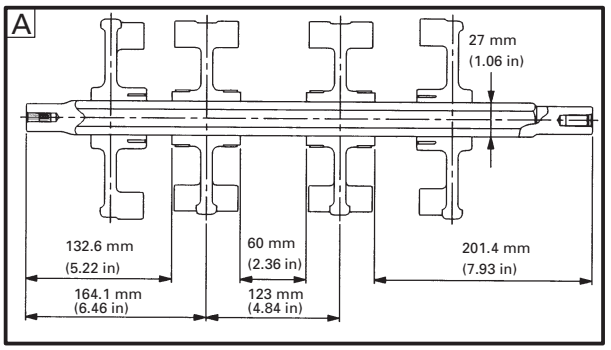
A : 49 Nm (4.9 m•kg, 35 ft•lb)
B : 71 Nm (7.1 m•kg, 50 ft•lb)

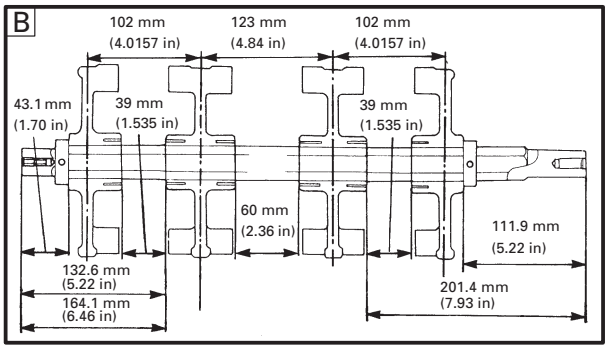


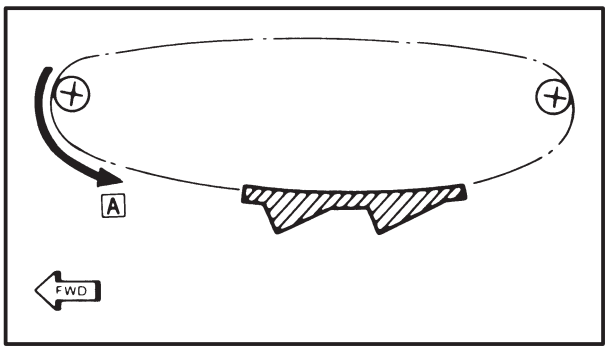
Order	Job name/Part name	Q'ty	Remarks
㉙	Rear shock absorber	1	
㉚	Bushings	2	
㉛	Collar	1	
㉜	Pull rod	2	
㉝	Collars	4	
㉞	Bushings	4	
㉟	Collars	2	(700)
㊱	Suspension wheels	2	
㊲	Control rods	2	
㊳	Bushings	2	
㊴	Screw	2	
㊵	Bushings	2	



Order	Job name/Part name	Q'ty	Remarks
㊶	Rear pivot arm	1	
㊷	Bushings	2	
㊸	Collar	1	
㊹	Collar	1	
㊺	Rear pivot arm bracket	1	
㊻	Collar	1	
㊼	Circlips	2	
㊽	Suspension wheels	2	
㊾	Wheel bracket	1	
㊿	Rear axle	1	
(51)	Guide wheels	3	
(52)	Collars	2	
(53)	Tension adjusters	2	
(54)	Collar	1	
(55)	Collar	1	
(56)	Sliding frames	2	
			For assembly, reverse the disassembly procedure.







FRONT AXLE AND TRACK

INSTALLATION

Reverse the "REMOVAL" procedure.
Note the following points.

1. Install:
   - Sprocket wheels
   - Guide wheels

NOTE:

- When pressing the sprocket wheels onto the front axle, align the lugs on each sprocket wheel.
- Locate each sprocket wheel and guide wheel on the axle where shown in the illustration.

A : 500
B : 700

2. Place the track in the chassis.

NOTE:

Be sure it is positioned as shown in the illustration.

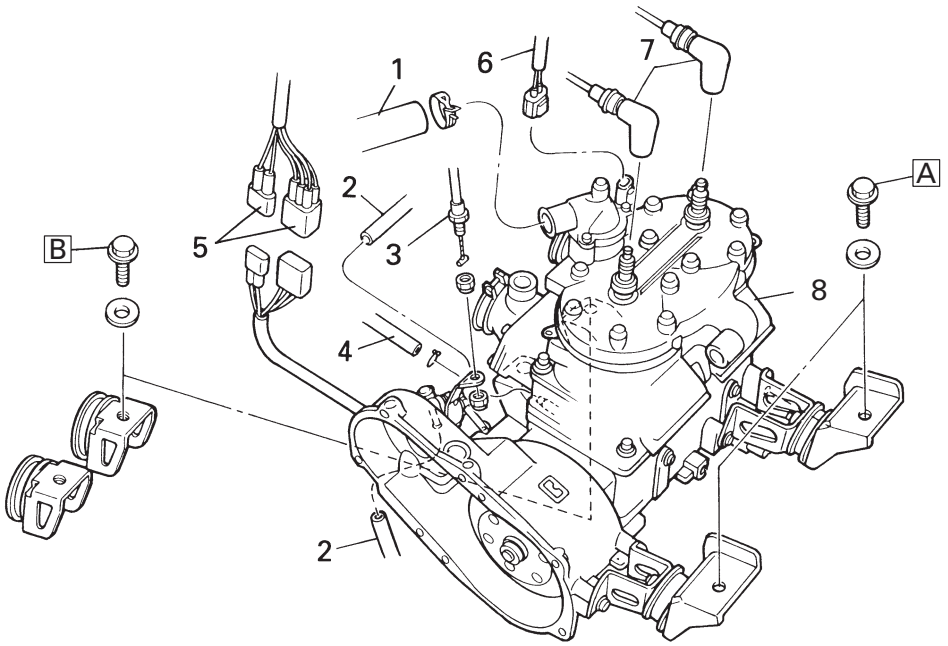
A TURNING DIRECTION

ENGINE

ENGINE ASSEMBLY

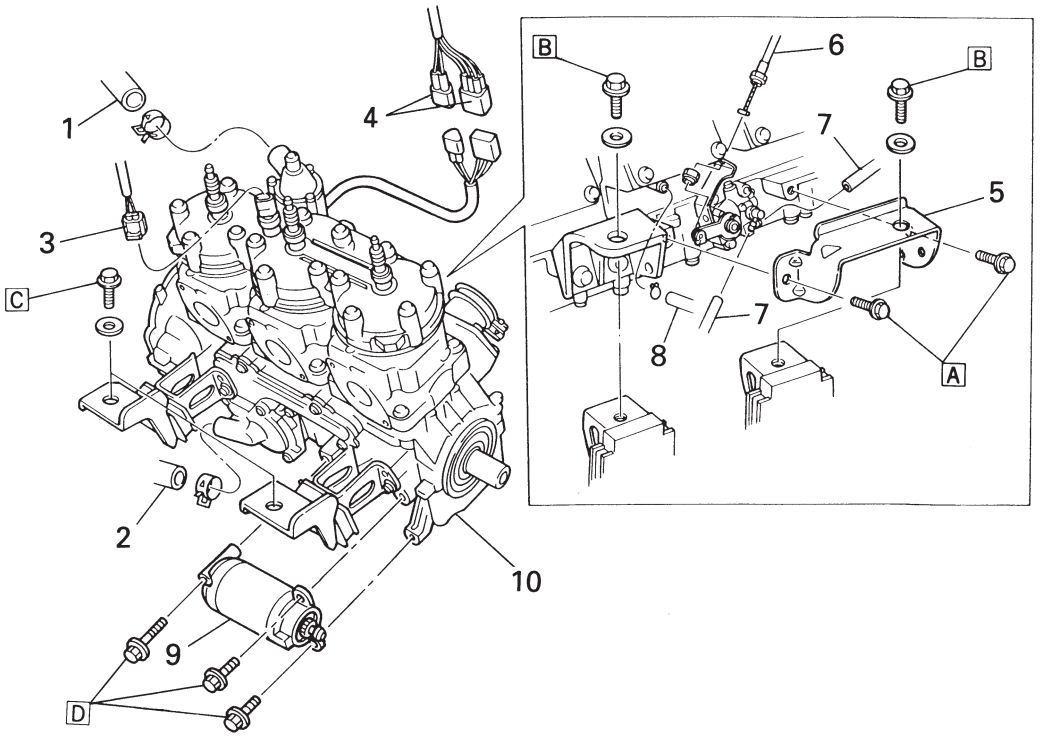
500

A : 90 Nm (9.0 m•kg, 65 ft•lb)
B : 60 Nm (6.0 m•kg, 43 ft•lb)

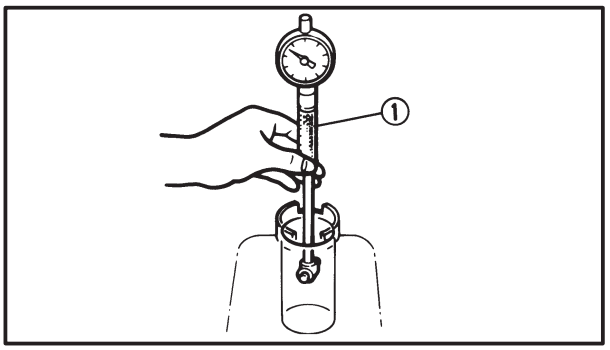


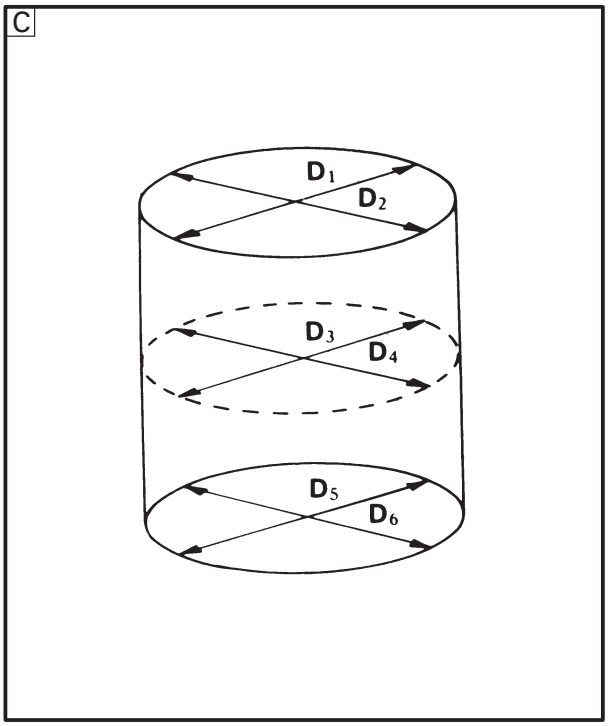
Order	Job name/Part name	Q'ty	Remarks
	Engine removal		Remove the parts in the order below.
	Exhaust pipe		
	Carburetor		Refer to "CARBURETOR".
	Recoil starter		Refer to "RECOIL STARTER".
	Water pump		Refer to "WATER PUMP AND THERMOSTATIC VALVE".
	Primary sheave		Refer to "PRIMARY SHEAVE AND DRIVE V-BELT".
1	Coolant hose	1	
2	Oil hoses	2	
3	Oil pump cable	1	
4	Vacuum hose	1	
5	CDI magneto couplers	2	
6	Thermo sensor coupler	1	
7	Spark plug caps	2	
8	Engine assembly	1	
			For installation, reverse the removal procedure.

A : 23 Nm (2.3 m•kg, 17 ft•lb)
B : 60 Nm (6.0 m•kg, 43 ft•lb)
C : 90 Nm (9.0 m•kg, 65 ft•lb)
D : 23 Nm (2.3 m•kg, 17 ft•lb)



Order	Job name/Part name	Q'ty	Remarks
	Engine removal		Remove the parts in the order below.
	Exhaust pipe		
	Carburetor		Refer to "CARBURETOR".
	Recoil starter		Refer to "RECOIL STARTER".
	CDI Magneto rotor		Refer to "CDI MAGNETO".
	Frame cross member		
	Primary sheave		Refer to "PRIMARY SHEAVE AND DRIVE V-BELT".
	Coolant		Drain. Refer to "COOLANT REPLACEMENT".
1	Coolant hose 1	1	
2	Coolant hose 2	1	
3	Thermo sensor coupler	1	
4	CDI magneto couplers	2	
5	Rear bracket right	1	
6	Oil pump cable	1	
7	Oil hoses	2	
8	Vacuum hose	1	
9	Starter motor	1	
10	Engine assembly	1	
			For installation, reverse the removal procedure.





CYLINDER HEAD AND CYLINDER

INSPECTION

1. Measure:
   • Piston-to-cylinder clearance

Measurement steps:

1st step:

• Measure the cylinder bore "C" with a cylinder bore gauge ①.

NOTE:

Measure the cylinder bore "C" parallel to, and at right angles to the crankshaft. Then find the average of the measurements.

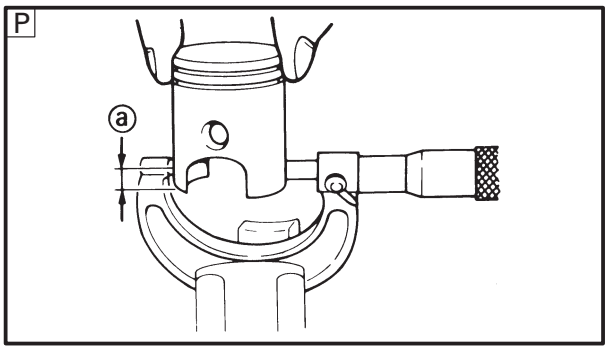
	Standard	Wear limit
Cylinder bore "C"	500: 68.00 ~ 68.02 mm (2.677 ~ 2.678 in) 700: 70.50 ~ 70.52 mm (2.775 ~ 2.776 in)	68.1 mm (2.681 in) 70.6 mm (2.780 in)
Taper "T"	–	0.05 mm (0.0019 in)
Out of round "R"	–	0.01 mm (0.0004 in)

C = Maximum D

T = (Maximum D_1 or D_2) –
(Maximum D_5 or D_6)

R = (Maximum D_1, D_3 or D_5) –
(Minimum D_2, D_4 or D_6)

• If out of specification, replace cylinder, and replace piston and piston rings as a set.



2nd step:

- Measure the piston skirt diameter "P" with a micrometer from distance ⓐ.
  ⓐ 500: 25 mm (0.98 in)
  700: 15 mm (0.59 in)
  from the piston bottom edge.

	Piston size P
Standard	**500: 67.930 ~ 67.935 mm (2.6745 ~ 2.6746 in)** **700: 70.425 ~ 70.430 mm (2.7727 ~ 2.7728 in)**

- If out of specification, replace piston and piston rings as a set.

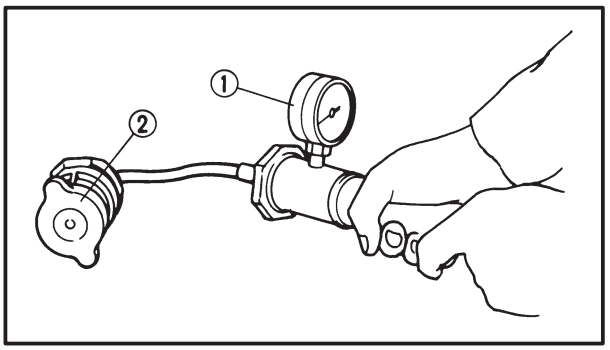
3rd step:

- Calculate the piston-to-cylinder clearance with the following formula:

Piston-to-cylinder clearance =
Cylinder bore "C" –
Piston skirt diameter "P"

- If out of specification, rebore or replace cylinder, and replace piston and piston rings as a set.

Piston-to-cylinder clearance:
500: 0.095 ~ 0.100 mm
(0.0037 ~ 0.0039 in)
Limit 0.11 mm (0.0043 in)
700: 0.070 ~ 0.075 mm
(0.0028 ~ 0.0030 in)
Limit 0.1 mm (0.0039 in)



COOLING SYSTEM

HEAT EXCHANGER

1. Measure:
   • Filler cap opening pressure
   Cap opens at pressure below the specified pressure → Replace.

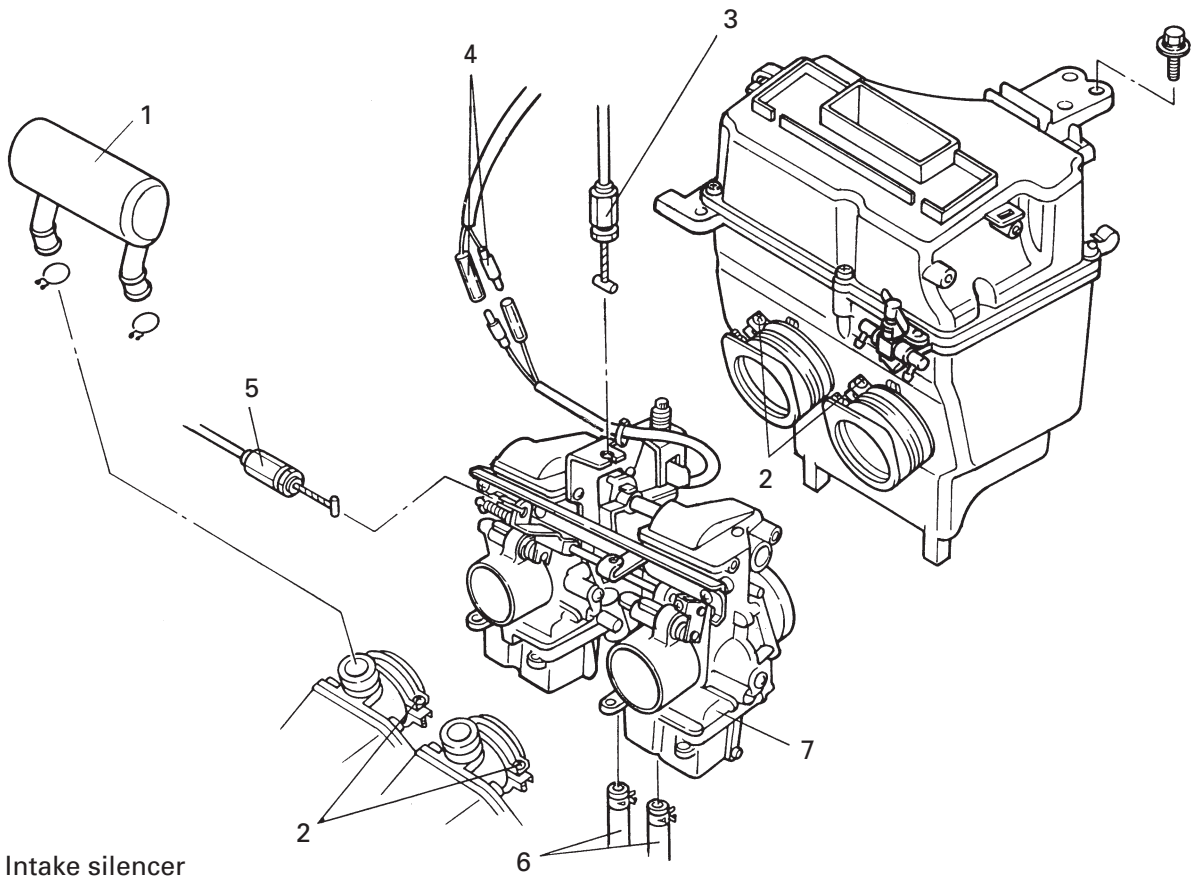
Cap opening pressure:
95 ~ 125 kPa
(0.95 ~ 1.25 kg/cm^2,
13.58 ~ 17.87 psi)

Measurement steps:
- Attach the cooling system tester ① (90890-01325, YU-24460-01) to the coolant filler cap ②.
- Apply the specified pressure for 10 seconds, and make sure there is no pressure drop.

CARBURETION

CARBURETORS

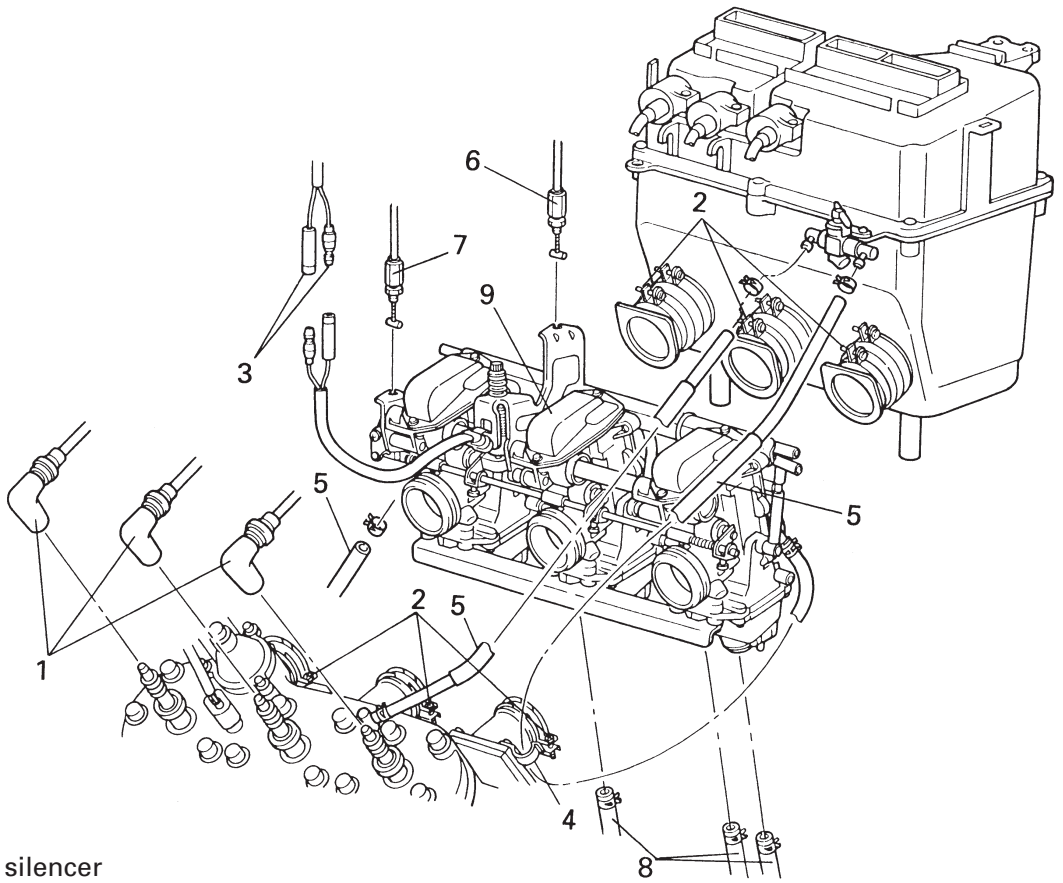
500



* Intake silencer

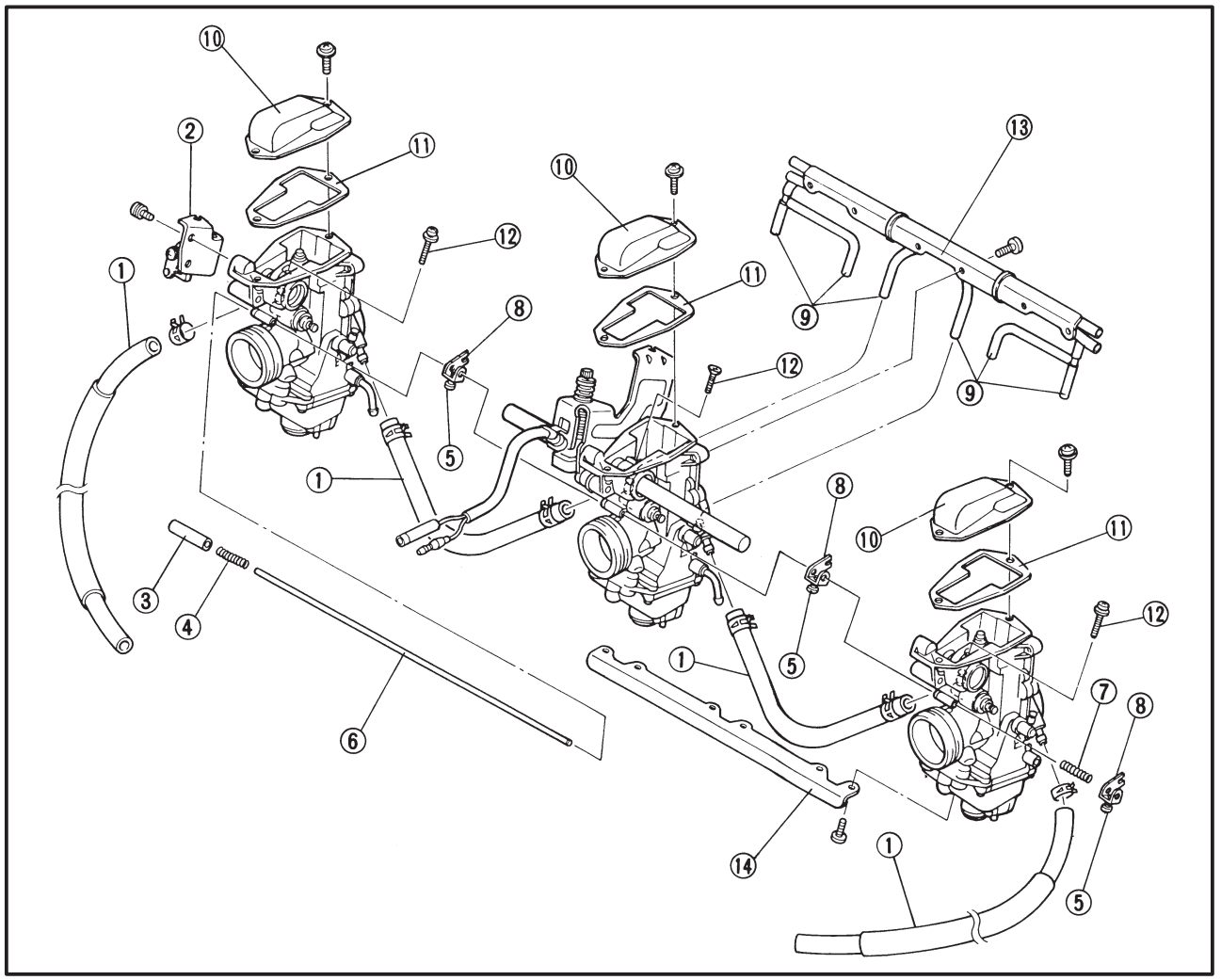
- First, remove the throttle cable from the cable guide on the steering column.
- Adjust the throttle cable free play while the cable is in the cable guide.
- After adjusting the throttle cable free play, properly install the upper and lower intake silencer plates and seal.

Order	Job name/Part name	Q'ty	Remarks
	Carburetors removal		Remove the parts in the order below.
1	Air chamber	1	
2	Clamp screws	4	Loosen
3	Throttle cable	1	
4	Carburetor switch (T.O.R.S.) leads	2	
5	Starter cable	1	
6	Fuel delivery hoses	2	
7	Carburetors	1	
			For installation, reverse the removal procedure.

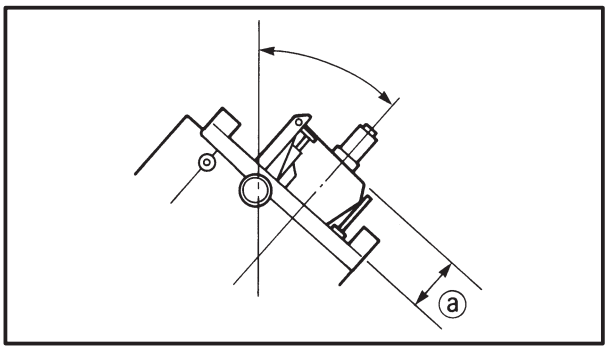


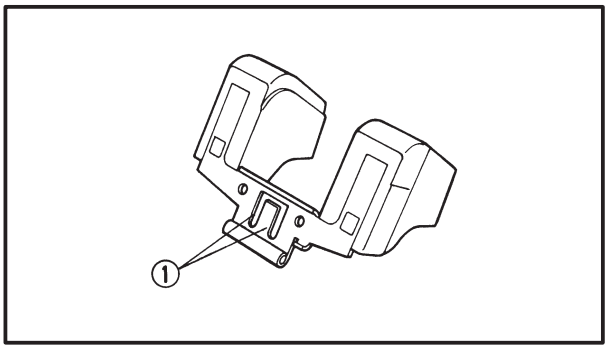
* Intake silencer
- First, remove the throttle cable from the cable guide on the steering column.
- Adjust the throttle cable free play while the cable is in the cable guide.
- After adjusting the throttle cable free play, properly install the upper and lower intake silencer plates and seal.

Order	Job name/Part name	Q'ty	Remarks
	Carburetors removal		Remove the parts in the order below.
1	Spark plug caps	3	
2	Clamp screws	6	Loosen
3	Carburetor switch (T.O.R.S.) leads	2	
4	Clamp	1	
5	Coolant hoses	3	
6	Throttle cable	1	
7	Starter cable	1	
8	Fuel hoses	3	
9	Carburetors	1	
			For installation, reverse the removal procedure.



Order	Job name/Part name	Q'ty	Remarks
	Carburetor separation		Separation the parts in the order below.
①	Coolant hoses	4	
②	Starter cable holder	1	
③	Collar	1	
④	Spring	1	
⑤	Screw	3	Loosen
⑥	Starter rod	1	
⑦	Spring	1	
⑧	Starter levers	3	
⑨	Breather hoses	3	
⑩	Top covers	3	
⑪	Gaskets	3	
⑫	Throttle shaft connecting screws	3	
⑬	Connecting plate (upper)	1	
⑭	Connecting plate (lower)	1	
			For assembly, reverse the separation procedure.





ASSEMBLY

1. Measure:
   - Float height ⓐ
     Out of specification → Adjust.

Float height:
500
22.3 ± 2.0 mm
(0.878 ± 0.080 in)
700
13.3 ± 2.0 mm
(0.524 ± 0.080 in)

Measurement and adjustment steps:

- Hold the carburetor in an upside down position.
- Measure the distance between the carburetor body and top of the floats.

NOTE:

The float arm should be resting on the valve, but not compressing the needle valve spring.

- If the float height is not within specification, inspect the valve seat and needle valve.
- If either is worn, replace them both.
- If both are fine, adjust the float height by bending the float arm tang ① on the float.
- Recheck the float height.

SPECIFICATIONS

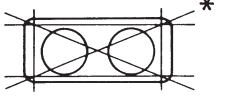
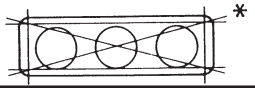
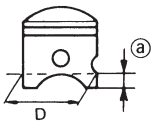
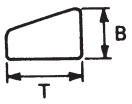
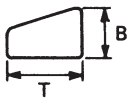
GENERAL SPECIFICATIONS

Model	VX500SXB	VX700ER
Model code number:	8CT	8DY
Dimensions:		
Overall length	2,760 mm (108.7 in)	←
Overall width	1,170 mm (46.1 in)	1,200 mm (47.2 in)
Overall height	1,085 mm (42.7 in)	1,300 mm (51.2 in)
Weight:	222 kg (488 lb)	236 kg (520 lb)
Minimum turning radius:		
Clockwise	3.8 m (12.5 ft)	4.0 m (13.1 ft)
Counterclockwise	3.8 m (12.5 ft)	4.0 m (13.1 ft)
Engine:		
Engine type	Liquid cooled 2-stroke, piston port	←
Induction system	Plston reed valve	Crankcase reed valve
Cylilnder arrangement	Forward inclined parallel 2-cylinder	Forward indined parallel 3-cylinder
Displacement	494 cm^3 (30.1 cu.in)	698 cm^3 (42.6 cu.in)
Bore × stroke	68 × 68 mm (2.68 × 2.68 in)	70.5 × 59.6 mm (2.78 × 2.35 in)
Compression ratio	6.5 : 1	6.7 : 1
Maximum horse power r/min	7,750 ± 250 r/min	8,500 ± 250 r/min
Maximum torque r/min	7,750 ± 250 r/min	8,250 ± 250 r/min
Starting system	Recoil hand starter	Electric and recoil hand starter
Lubrication system:	Separate lubrication (YAMAHA AUTOLUBE)	←
Engine oil:		
Type	YAMALUBE 2-cycle oil	←
Tank capacity	3.0 L (2.6 lmp gt, 3.2 Us gt)	←
Drive chain housing oil:		
Type	Gear oil API “GL-3” SAE #75 or #80	←
Capacity	0.25 L (8.8 lmp oz, 8.45 US oz)	←
Coolant:		
Total amount	3.2 L (2.8 lmp gt, 3.4 US gt)	4.2 L (3.6 lmp gt, 4.3 US gt)
Reservoir tank capacity	0.17 L (0.15 lmp gt, 0.18 US gt)	←
Fuel:		
Type	Regular gasoline (Pump Octane $\frac{R+M}{2}$; 88)	←
Tank capacity	44.3 L (9.7 lmp gal, 11.7 US gal)	←

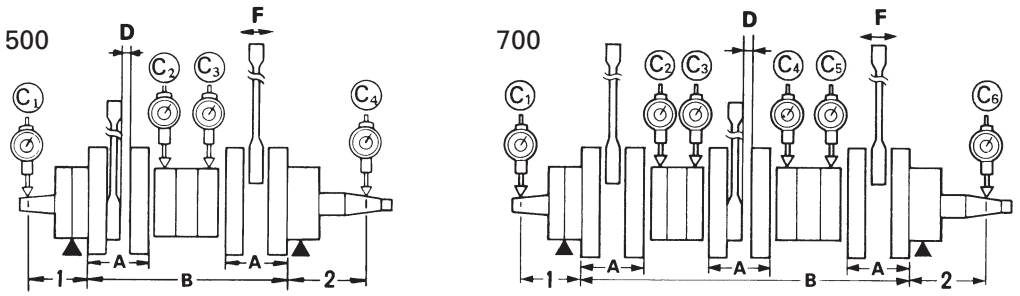
Model	VX500SXB	VX700ER
Carburetor:		
Type/quantity	TM36 × 2	TM33 × 3
Manufacturer	MIKUNI	←
Spark plug:		
Type	BR9ES	←
Manufacturer	NGK	←
Gap	0.7 ~ 0.8 mm (0.028 ~ 0.031 in)	←
Transmission:		
Primary reduction system	V-Belt	←
Primary reduction ratio	3.8 ~ 1.0 : 1	←
Clutch type	Automatic centrifugal engagement	←
Secondary reduction system	Chain	←
Secondary reduction ratio	1.77 (39/22)	←
Reverse system	No	Yes
Chassis:		
Frame type	Monocoque	←
Caster	22.5°	←
Ski stance (center to center)	1,040 mm (40.9 in)	1,070 mm (42.1 in)
Suspension:		
Front suspension type	Leading arm	←
Rear suspension type	Slide rail suspension	←
Track:		
Track type	Internal drive type	←
Track width	381 mm (15.0 in)	←
Length on ground	752 mm (29.6 in)	←
Track deflection mm/10 kg (22 lb)	25 ~ 30 mm (0.98 ~ 1.18 in)	←
Brake:		
Brake type	Caliper type disc brake	←
Operation method	Handle lever, left hand operated	←
Electrical:		
Ignition system/manufacturer	CDI/MITSUBISHI	←
Generator system	Flywheel magneto	←
Bulb wattage × quantity:		
Headlight	12 V, 60/55 W × 1	←
Tail/brake light	12 V, 8/23 W × 1	←
Tachometer light	12 V, 1.7 W × 1	←
Speedometer light	12 V, 1.7 W × 1	←
Highbeam indicator light	12 V, 1.7 W × 1	←
Water temperature light	12 V, 1.7 W × 1	←
Oil level indicator light	12 V, 1.7 W × 1	←

MAINTENANCE SPECIFICATIONS

ENGINE

Model	VX500SXB	VX700ER
Cylinder head:		
Volume (with spark plug)	23.3 ~ 23.9 cm^3	22.9 ~ 23.5 cm^3
<Warp limit>	<0.03 mm (0.0012 in)>	←
500 	* Lines indicate straight edge measurement.	←
700 		
Cylinder:		
Material	Aluminum alloy with dispersion coating	←
Bore size	68.00 ~ 68.02 mm (2.677 ~ 2.678 in)	70.50 ~ 70.52 mm (2.775 ~ 2.776 in)
<Taper limit>	<0.05 mm (0.0019 in)>	←
<Out-of-round limit>	<0.01 mm (0.0004 in)>	←
Piston:		
Piston size (D) 	67.930 ~ 67.935 mm (2.6745 ~ 2.6746 in)	70.425 ~ 70.430 mm (2.7727 ~ 2.7728 in)
Measuring point ⓐ	25 mm (0.98 in)	15 mm (0.59 in)
Piston to-cylinder clearance	0.095 ~ 0.100 mm (0.0037 ~ 0.0039 in)	0.070 ~ 0.075 mm (0.0028 ~ 0.0030 in)
<Limit>	<0.11 mm (0.0043 in)>	<0.1 mm (0.0039 in)>
Piston pin bore inside diameter	20.004 ~ 20.015 mm (0.7876 ~ 0.7880 in)	←
Piston pin:		
Piston pin outside diameter	19.995 ~ 20.000 mm (0.7872 ~ 0.7874 in)	←
Piston pin length	55.7 ~ 56.0 mm (2.193 ~ 2.205 in)	←
Piston ring:		
Sectional sketch		
Top Ring 	Keystone	←
	B = 1.2 mm (0.047 in)	←
	T = 2.65 mm (0.104 in)	T = 2.55 mm (0.100 in)
2nd Ring 	Keystone	←
	B = 1.2 mm (0.047 in)	←
	T = 2.65 mm (0.104 in)	T = 2.55 mm (0.100 in)
End gap (installed) Top Ring	0.45 ~ 0.60 mm (0.0178 ~ 0.024 in)	0.35 ~ 0.55 mm (0.0137 ~ 0.0217 in)
2nd Ring	0.45 ~ 0.60 mm (0.0178 ~ 0.024 in)	0.35 ~ 0.55 mm (0.0137 ~ 0.0217 in)
Side clearance Top Ring	0.02 ~ 0.06 mm (0.0008 ~ 0.0024 in)	←
2nd Ring	0.02 ~ 0.06 mm (0.0008 ~ 0.0024 in)	←
Coating Top Ring	Chrome plate/Ferox coating	←
2nd Ring	Chrome plate/Ferox coating	←

Model	VX500SXB	VX700ER
Crankshaft:		
Crank width "A"	61.95 ~ 62.00 mm (2.439 ~ 2.440 in)	55.95 ~ 56.00 mm (2.203 ~ 2.205 in)
Crank width "B"	179.85 ~ 180.15 mm (7.080 ~ 7.093 in)	291.75 ~ 292.30 mm (11.486 ~ 11.508 in)
Crankshaft deflection "C" : C_1	Below 0.03 mm (0.0012 in)	←
500: C_2, C_3	Below 0.04 mm (0.0016 in)	←
500: C_4	Below 0.05 mm (0.0020 in)	←
700: C_2 ~ C_5	–	Below 0.04 mm (0.0016 in)
700: C_6	–	Below 0.03 mm (0.0012 in)
Measuring points: 1	80 mm (3.15 in)	90 mm (3.54 in)
2	99 mm (3.90 in)	85 mm (3.35 in)
Connecting rod big end side clearance "D"	0.25 ~ 0.75 mm (0.01 ~ 0.03 in)	←
Connecting rod small end free play "F"	0.8 ~ 1.0 mm (0.03 ~ 0.04 in)	←

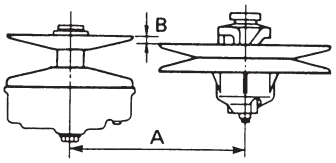
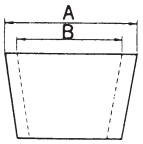
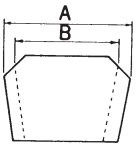


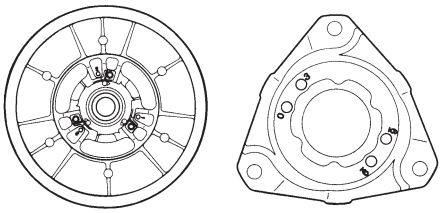
Big end bearing:		
Type	Needle bearing	←
Small end bearing:		
Type	Needle bearing	←
Crank pin:		
Crank pin outside diameter	24.987 ~ 25 mm (0.9838 ~ 0.9842 in)	26.993 ~ 27.000 mm (1.0627 ~ 1.0629 in)
Connecting rod:		
Small end diameter	24.995 ~ 25.008 mm (0.9841 ~ 0.9845 in)	←
Big end diameter	32.005 ~ 32.018 mm (1.26004 ~ 1.26055 in)	34.020 ~ 34.033 mm (1.3394 ~ 1.3398 in)

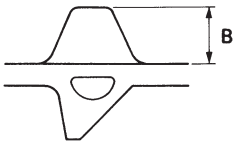
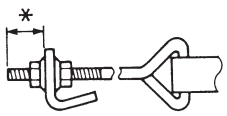
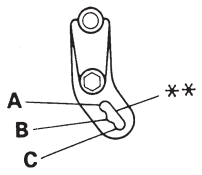
Model	VX500SXB	VX700ER
Carburetor:		
Type/Quantity	TM36/2 pcs.	TM33/3 pcs.
Manufacturer	MIKUNI	←
I.D. mark	8CJ10	8CH10
Main jet (M.J)	#151.3	#1 : #145 #2, 3 : #143.8
Main air jet (M.A.J)	ø2.5	–
Pilot jet (P.J)	#45	←
Jet needle (J.N)	8CFY14-56-2	6DGM5-3
Needle jet (N.J)	Q-6	#1 : Q-8 #2, 3 : Q-4
Pilot air jet (P.A.J)	2.5	1.0
Pilot outlet (P.O)	ø0.9	ø0.8
Bypass (B.P.I)	1.0	0.8
Pilot screw (P.S)	1-3/4	1-1/2
Throttle valve (Th.V)	3.0	3.5
Valve seat size (V.S)	ø1.5	ø1.2
Starter jet (G.S)	ø0.9	ø1.1
Float height (F.H)	22.3 ± 2.0 mm (0.878 ± 0.080 in)	13.3 ± 2.0 mm (0.524 ± 0.080 in)
Fuel level (from the bore center)	41 mm (1.61 in)	37 ± 1 mm (1.457 ± 0.039 in)
Engine idle speed	1,600 ± 100 r/min	←
Fuel pump:		
Type	DIAPHRAM	←
Manufacturer	TAIYO GIKEN	←
Oil pump:		
Pump cable adjusting length	Align the marks	21 ~ 23 mm (0.83 ~ 0.90 in)
Cooling system:		
Water pump drive belt tension	8 mm/10 ~ 14 kg (0.3 in/22.0 ~ 30.9 lb)	–
New belt	8 mm/13 ~ 20 kg (0.31 in/28.7 ~ 44.1 lb)	–
Filler cap opening pressure	95 ~ 125 kPa (0.95 ~ 1.25 kg/cm^2, 13.58 ~ 17.87 psi)	←
Water pump type	Impeller type	←
Coolant type	High quality ethylene glycol antifreeze containing corrosion innibitor	← ←
Coolant mixing ratio (coolant: water)	3 : 2 (60%/40%)	←
Coolant capacity	3.2 L (2.81 Imp qt, 3.4 US qt)	4.2 L (3.6 Imp qt, 4.3 US qt)
Reservoir tank capacity	0.17 L (0.15 Imp qt, 0.18 US qt)	←

Model	VX500SXB	VX700ER
Thermostat:		
Opening temperature	50 ~ 55°C (122°F ~ 132°F)	←
Valve lift	8 mm/70°C (159°F)	←

POWER TRAIN

Model	VX500SXB	VX700ER
Transmission:		
Type	V-belt automatic	←
Range of ratio	3.8 ~ 1.0 : 1	←
Engagement r/min	4,000 ± 200 r/min	←
Shift r/min	7,800 ± 250 r/min	8,300 ± 250 r/min
Sheave center distance "A"	267 ~ 270 mm (10.52 ~ 10.62 in)	←
Sheave offset "B"	13.5 ~ 16.5 mm (0.53 ~ 0.64 in)	18.5 ~ 21.5 mm (0.75 ~ 0.84 in)
		
V-Belt:		
Part number	8CJ-17641-00 DAYCO	8DN-17641-00 MITSUBOSHI
Outside circumference	1,119 mm ~ 1,129 mm (44.063 ~ 44.437 in)	1,129 mm ~ 1,137 mm (44.4 ~ 44.7 in)
Width "A"	35.0 mm (1.38 in)	34.5 mm (1.36 in)
Wear limit "B"	33.0 mm (1.30 in)	32.5 mm (1.28 in)
		
Primary sheave spring:		
Part number	90501-550J8	90501-555J9
Color code	White-Pink-White	White-Silver-White
Diameter	60 mm (2.36 in)	48 mm (1.89 in)
Wire diameter	5.5 mm (0.21 in)	←
Preload	294 N (30 kg, 66 lb)	343 N (35 kg, 77 lb)
Spring rate	22 N/mm (2.25 kg/mm, 123 lb/in)	←
Number of coils	4.62	4.66
Free length	78.7 mm (3.10 in)	81.0 mm (3.19 in)
Primary sheave weight arm:		
Part number (with bushing)	8CR-17605-00	8CH-17605-10
Weight	38.09g (1.34oz)	35.32g (1.24oz)

Model	VX500SXB	VX700ER
Rivet:		
Outer		
Part number	90261-06034	90261-06015
Material	Steel	←
Size	13.9 mm (0.55 in)	10.3 mm (0.40 in)
Quantity	3 pcs	←
Hole quantity	3 pcs	←
Inner		
Part number	90261-06028	90261-06034
Material	Aluminum	Steel
Size	10.3mm (0.40in)	13.9 mm (0.55 in)
Quantity	3 pcs	←
Hole quantity	3 pcs	←
Secondary sheave spring:		
Part number	90508-536A9	90508-556A2
Color code	Red	Green
Outside diameter	69.5 mm (2.736 in)	←
Wire diameter	5.3 mm (0.208 in)	5.5 mm (0.216 in)
Hole position		
Sheave side-spring side (twist angle)	3-6 (90°)	3-3 (60°)
		
Spring rate	7.23 N/mm (0.74 kg/mm, 40.49 lb/in)	8.49 N/mm (0.866 kg/mm, 47.54 lb/in)
Number of coils	5.53	←
Free length	75 mm (2.95 in)	←
Torque cam angle	43°	45°
Drive chain:		
Type	S37TNB13	←
Number of links	70L	←

Model	VX500SXB	VX700ER
Track:		
Part number	8AB-47110-10	8CH-47110-00
Width	381 mm (15.0 in)	←
Length	3,072 mm (120.9 in)	←
Pitch	64 mm (2.52 in)	←
Number of links	48	←
Height "B" 	16 mm (0.63 in)	←
Deflection at 10 kg (22 lb)	25 ~ 30 mm (0.98 ~ 1.18 in)	←
Slide rail suspension:		
Front travel	178 mm (7 in)	228 mm (9 in)
Rear travel	203 mm (8 in)	279 mm (11 in)
Suspension spring rate		
Front	47 N/mm (4.8 kg/mm, 274 lb/in)	19.6 N/mm (2 kg/mm, 112 lb/in)
Rear	27.44 ~ 47.04 N/mm (2.8 ~ 4.8 kg/mm, 160 ~ 273 lb/in)	29.4 ~ 44.1 N/mm (3.0 ~ 4.5 kg/mm, 174 ~ 251 lb/in)
Spring wire diameter		
Front	9.0 mm (0.35 in)	7.8 mm (0.30in)
Rear	10.8 mm (0.425 in)	11.5 mm (0.45 in)
Suspension setting position:		
Stopper band hole position (F)	NO.1	←
Hook setting length * 	15 mm (0.59 in)	10 mm (0.39 in)
Full rate adjusting position ** 	B	←

Model	VX500SXB	VX700ER
Shock absorber: Damping force		
Front		
Extension	3,320N ± 460N/0.3m/s	720 N ± 150N/0.3m/s
Compression	1,110N ± 225N/0.3m/s	1,020 N ± 210N/0.3m/s
Rear		
Extension	1,950N ± 264N/0.3m/s	2,206 N ± 657N/0.3m/s
Compression	1,380N ± 235N/0.3m/s	726 N ± 216N/0.3m/s
Slide runner:		
Thickness	17.8 mm (0.70 in)	←
Wear limit	10 mm (0.39 in)	←
Track sprocket wheel:		
Material	Polyethylene	←
Number of teeth	9T	←
Rear guide wheel:		
Material	Aluminum with rubber	High-molecular-weight polyethylene with rubber
Outside diameter	178 mm (7 in)	←
Brake:		
Pad thickness	10.2 mm (0.40 in)	←
Pad wear limit	4.7 mm (0.185 in)	←
Disc outside diameter	220 mm (8.66 in)	←
Disc thickness	10 mm (0.39 in)	←

CHASSIS

Model	VX500SXB	VX700ER
Frame:		
Frame material	Aluminum	←
Seat height	685 mm (26.8 in)	730 mm (28.7 in)
Luggage box location	Rear side of seat	←
Steering:		
Lock-to-lock angle (left)	29.6° (R ski) 34.8° (L ski)	29.4° (R ski) 34.7° (L ski)
(right)	34.8° (R ski) 29.6° (L ski)	34.7° (R ski) 29.4° (L ski)
Ski alignment	Toe-out	←
Toe-out size	0 ~ 15 mm (0 ~ 0.59 in)	←
Caster angle	22.5°	←
Ski:		
Ski material	Plastic	Steel + Skin
Length	1,000 mm (39.4 in)	1,032 mm (40.6 in)
Width	130 mm (5.12 in)	110 mm (4.33 in)
Thickness	2 mm (0.08 in)	1.6 mm (0.06 in)
Ski ground length	178 mm (7 in)	←
Ski suspension:		
Type	Proaction system	←
Travel	178 mm (7 in)	228 mm (9 in)
Spring type	Coil spring	←
Spring rate	22.5 N/mm (2.3 kg/mm)	21 N/mm (2.1 kg/mm)
Wire diameter	7.8 mm (0.307 in)	8 mm (0.315 in)
Shock absorber: damping force		
Extension	1,260 ± 190 N/0.3 m/s	1,270 ± 380 N/0.3 m/s
Compression	520 ± 110 N/0.3 m/s	790 ± 240 N/0.3 m/s

ELECTRICAL

Model	VX500SXB	VX700ER
Voltage:	12 V	←
Ignition system:		
Ignition timing (B.T.D.C.)	16° at 1.600 r/min	18° at 1.500 r/min
Advanced timing (B.T.D.C.)	18° at 4.500 r/min	24° at 4.500 r/min
Advanced type	Electrical type	←
Ignition coil:		
Model/Manufacturer	8AB-00/YAMAHA	8DG-00/YAMAHA
Minimum spark gap	3 mm (0.118 in) or more	←
Primary coil resistance	0.2 Ω ± 20% at 20°C (68°F)	0.06 Ω ± 20% at 20°C (68°F)
Secondary coil resistance	4.9 kΩ ± 20% at 20°C (68°F)	3.4 kΩ ± 20% at 20°C (68°F)
Spark plug cap:		
Type	Rubber type	←
Model/Manufacturer	8DG/TOKAI DENSO	←
Resistance	5 kΩ at 20°C (68°F)	←
Charging system:		
Type	Flywheel magneto	←
CDI:		
Magneto model/Manufacturer	F4T 318/MITSUBISHI	F4T 326/MITSUBISHI
Pickup coil resistance	189 ~ 231 Ω at 20°C	←
(color code)	(68°F)	
	(White/Red-White/Green)	←
Source coil resistance	279 ~ 341 Ω at 20°C	392 ~ 479 Ω at 20°C
(color code)	(68°F)	(68°F)
Charging current-(Minimum)	(Brown-Black/Red)	←
Charging current-(Maximum)	0.5 A at 3.000 r/min	←
Charging coil resistance	2.5 A at 8.000 r/min	←
(color code)	0.29 ~ 0.35 Ω at 20°C	0.32 ~ 0.40 Ω at 20°C
	(68°F)	(68°F)
	(White-Black)	←
Lighting voltage-(Minimum)	11 V at 3.000 r/min	←
Lighting voltage-(Maximum)	15 V at 8.000 r/min	←
Lighting coil resistance	0.27 ~ 0.33 Ω at 20°C	0.29 ~ 0.35 Ω at 20°C
(color code)	(68°F)	(68°F)
	(Yellow-Black)	←
Grip warmer coil resistance	1.0 ~ 1.2 Ω at 20°C (68°F)	1.4 ~ 1.7 Ω at 20°C (68°F)
(color code)	(Yellow/Black-Black)	←
CDI unit manufacturer	8CJ-01 (MITSUBISHI)	8CH-00 (MITSUBISHI)

Model	VX500SXB	VX700ER
Rectifier/regulator:		
Model/manufacturer	8CR-00/MATSUSHITA	←
No load regulated voltage AC	13.8 ~ 14.8 V	←
DC	14.0 ~ 15.0 V	←
Battery: (for electric model)		
Specific gravity	–	1.280
Type	–	GM18Z-3A
Electric starter system: (for electric model)		
Type	–	Bendix
Starter motor: (for electric model)		
Model/manufacturer	DB4XF/DENSO	←
Output	0.6 kW	←
Armature coil resistance	0.014 ~ 0.018 Ω at 20°C (68°F)	←
Brush: Overall length	12 mm (0.47 in)	←
Wear limit	8.5 mm (0.33 in)	←
Spring pressure	6.5 ~ 9.5 N (650 ~ 950 g, 22.9 ~ 33.5 oz)	←
Commutator diameter	28 mm (1.10 in)	←
Wear limit	27 mm (1.06 in)	←
Mica undercut	0.4 ~ 0.8 mm (0.016 ~ 0.031 in)	←

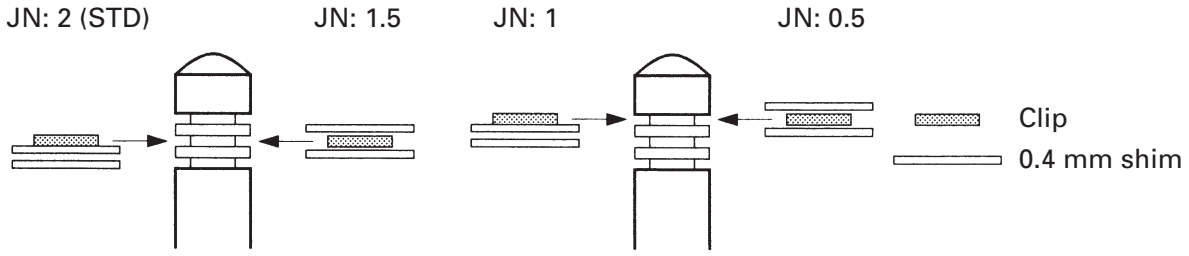
High altitude settings
VX500SXB

Altitude \ Temperature	−40°C (−40°F)	−29°C (−20°F)	−18°C (0°F)	−7°C (20°F)	4°C (40°F)	15°C (60°F)
0 ~ 100 m (0 ~ 330 ft)	MJ#155 JN-2.0	MJ#153.8 JN-2.0	MJ#152.5 JN-2.0	MJ#151.3 JN-2.0	MJ#150 JN-2.0	
100 ~ 500 m (330 ~ 1,600 ft)	MJ#153.8 JN-2.0	MJ#152.5 JN-2.0	MJ#151.3 JN-2.0	MJ#150 JN-2.0	MJ#148.8 JN-2.0	
500 ~ 1,000 m (1,600 ~ 3,300 ft)	MJ#151.3 JN-2.0	MU#150 JN-1.5	MJ#148.8 JN-1.5	MJ#147.5 JN-1.5	MJ#146.3 JN-1.5	
1,000 ~ 1,500 m (3,300 ~ 4,900 ft)	MJ#148.8 JN-1.5	MJ#147.5 JN-1.5	MJ#146.3 JN-1.5	MJ#145 JN-1.5	MJ#143.8 JN-1.5	
1,500 ~ 2,000 m (4,900 ~ 6,600 ft)	MJ#146.3 JN-1.5	MJ#145 JN-1.5	MJ#143.8 JN-1.5	MJ#142.5 JN-1.5	MJ#141.3 JN-1.0	
2,000 ~ 2,500 m (6,600 ~ 8,200 ft)	MJ#143.8 JN-1.0	MJ#142.5 JN-1.0	MJ#141.3 JN-1.0	MJ#140 JN-1.0 PJ#50 PS 2-1/2	MJ#138.8 JN-1.0 PJ#50 PS 2-1/2	
2,500 ~ 3,000 m (8,200 ~ 9,800 ft)	MJ#142.5 JN-1.0	MJ#141.3 JN-1.0	MJ#140 JN-1.0	MJ#138.8 JN-0.5 PAJ0.6, PJ#50 PS 2-1/2	MJ#136.3 JN-0.5 PAJ0.6, PJ#50 PS 2-1/2	

[Production spec] MJ:#151.3 PJ:#45 JN:8CFY14-56-2 PAJ:0.8 PS:1-3/4
#:Main jet number JN:Jet needle clip position PS:Pilot screw turns out PJ:Pilot jet number

NOTE:

- Jet needle (JN) position.
  Refer to the following information for the Jet needle shims installation.



- Oxygenated fuels
  Use one size larger Main Jet than specified.

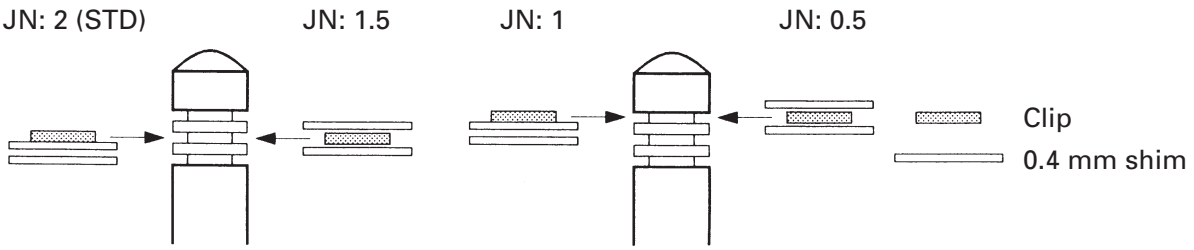
High altitude settings
VX700ER

Temperature / Altitude	−40°C (−40°F)	−29°C (−20°F)	−18°C (0°F)	−7°C (20°F)	4°C (40°F)	15°C (60°F)
0 ~ 100 m (330 ft)	MJ#1 #148.8 MJ#2#3 #147.5 PJ #45.0 JN 3.0 PS 1-1/2	MJ#1 #147.5 MJ#2#3 #146.3 PJ #45.0 JN 3.0 PS 1-1/2	MJ#1 #146.3 MJ#2#3 #145.0 PJ #45.0 JN 3.0 PS 1-1/2	MJ#1 #145.0 MJ#2#3 #143.8 PJ #45.0 JN 3.0 PS 1 1-3/8	MJ#1 #143.8 MJ#2#3 #142.5 PJ #45.0 JN 2.5 PS 1-1/4	
100 ~ 500 m (330 ~ 1,600 ft)	MJ#1 #147.5 MJ#2#3 #146.3 PJ #45.0 JN 3.0 PS 1-1/2	MJ#1 #146.3 MJ#2#3 #145.0 PJ #45.0 JN 3.0 PS 1-1/2	MJ#1 #145.0 MJ#2#3 #143.8 PJ #45.0 JN 3.0 PS 1-1/2	MJ#1 #143.8 MJ#2#3 #142.5 PJ #45.0 JN 2.5 PS 1-3/3	MJ#1 #142.5 MJ#2#3 #141.3 PJ #45.0 JN 2.5 PS 1-1/4	
500 ~ 1,000 m (1,600 ~ 3,300 ft)	MJ#1 #145.0 MJ#2#3 #143.8 PJ #50.0 JN 2.5 PS 1-5/8	MJ#1 #143.8 MJ#2#3 #142.5 PJ #50.0 JN 2.5 PS 1-1/2	MJ#1 #142.5 MJ#2#3 #141.3 PJ #50.0 JN 2.5 PS 1-1/2	MJ#1 #141.3 MJ#2#3 #140.0 PJ #50.0 JN 2.5 PS 1-1/2	MJ#1 #140.0 MJ#2#3 #138.8 PJ #50.0 JN 2.5 PS 1-3/8	
1,000 ~ 1,500 m (3,300 ~ 4,900 ft)	MJ#1 #142.5 MJ#2#3 #141.3 PJ #52.5 JN 2.5 PS 1-3/4	MJ#1 #141.3 MJ#2#3 #140.0 PJ #52.5 JN 2.5 PS 1-5/8	MJ#1 #140.0 MJ#2#3 #138.8 PJ #52.5 JN 2.0 PS 1-5/8	MJ#1 #138.8 MJ#2#3 #137.5 PJ #52.5 JN 2.0 PS 1-5/8	MJ#1 #137.5 MJ#2#3 #136.3 PJ #52.5 JN 2.0 PS 1-1/2	
1,500 ~ 2,000 m (4,900 ~ 6,600 ft)	MJ#1 #140.0 MJ#2#3 #138.8 PJ #55.0 JN 2.0 PS 2.0	MJ#1 #138.8 MJ#2#3 #137.5 PJ #55.0 JN 2.0 PS 1-7/8	MJ#1 #137.5 MJ#2#3 #136.3 PJ #55.0 JN 2.0 PS 1-7/8	MJ#1 #136.3 MJ#2#3 #135.0 PJ #55.0 JN 2.0 PS 1-7/8	MJ#1 #135.0 MJ#2#3 #133.8 PJ #55.0 JN 2.0 PS 1-3/4	
2,000 ~ 2,500 m (6,600 ~ 8,200 ft)	MJ#1 #137.5 MJ#2#3 #136.3 PJ #57.5 JN 2.0 PS 2-1/8	MJ#1 #136.3 MJ#2#3 #135.0 PJ #57.5 JN 2.0 PS 2.0	MJ#1 #135.0 MJ#2#3 #133.8 PJ #57.5 JN 2.0 PS 2.0	MJ#1 #133.8 MJ#2#3 #132.5 PJ #57.5 JN 2.0 PS 2.0	MJ#1 #132.5 MJ#2#3 #131.3 PJ #57.5 JN 2.0 PS 1-7/8	
2,500 ~ 5,000 m (8,200 ~ 9,800 ft)	MJ#1 #135.0 MJ#2#3 #133.8 PJ #60.0 JN 2.0 PS 2-1/4	MJ#1 #133.8 MJ#2#3 #132.5 PJ #60.0 JN 2.0 PS 2-1/8	MJ#1 #132.5 MJ#2#3 #131.3 PJ #60.0 JN 2.0 PS 2-1/8	MJ#1 #131.3 MJ#2#3 #130.0 PJ #60.0 JN 2.0 PS 2-1/8	MJ#1 #130.0 MJ#2#3 #128.8 PJ #60.0 JN 1.5 PS 2.0	

[Production spec] MJ#1:#145 MJ#2, 3:#143.8 PJ:#45 JN:6DGM05-3 PAJ:1.0 PS:1-1/2
#:Main jet number JN:Jet needle clip position PS:Pilot screw turns out PJ:Pilot jet number

NOTE:

- Jet needle (JN) position.
  Refer to the following information for the Jet needle shims installation.



- Oxygenated fuels
  Use one size larger Main Jet than specified.

Tightening torque:

Parts to be tightened	Tightening torque			Remarks
	Nm	m•kg	ft•lb	
Crankcase (first)	13	1.3	9.4	Tighten the bolts in two
(final)	27	2.7	19	stages.
Engine bracket (front) and frame 500	40	4.0	29	
700	90	9.0	65	
Engine bracket damper (front)	90	9.0	65	
Engine bracket and engine	27	2.7	19	
Engine bracket upper and lower (rear)	60	6.0	43	
Engine bracket damper and frame (rear)	40	4.0	29	
Water pump housing	27	2.7	19	(500)
Cylinder head				
Nut 500 (first)	13	1.3	9.4	Tighten the nuts in two
(final)	23	2.3	17	stages.
700 (first)	13	1.3	9.4	
(final)	25	2.5	18	
Cylinder body				
Nut 500	33	3.3	24	
700	28	2.8	20	
Spark plug	20	2.0	14	
Thermostatic valve cover	7	0.7	5.1	
Water pump drive pulley	23	2.3	17	(500)
Impeller 500	14	1.4	1.0	Left-Hand threads
700	10	1.0	7.2	
Oil pump	8	0.8	5.8	Left-hand thread.
Recoil starter 500	10	1.0	7.2	Apply LOCTITE®
700	12	1.2	8.7	
Carburetor				
Pilot jet	0.7	0.07	0.5	
Valve seat	1	0.1	0.7	
Main jet	1.8	0.18	1.4	
Coolant drain bolt 500	23	2.3	17	
700	13	1.3	9.4	
Magneto rotor nut	85	8.5	61	
Starter motor bolt	23	2.3	17	
Primary sheave (First)	120	12.0	85	
(Final)	60	6.0	43	
Spider and sliding sheave	200	20.0	145	
Primary sheave cap and sliding sheave	14	1.4	10	
Roller and weight (primary sheave)				
Bolt	6	0.6	4.3	
Screw	3	0.3	2.2	
Ring gear	17	1.7	12	Apply LOCTITE®
Secondary sheave	64	6.4	46	
Drive sprocket	60	6.0	43	
Lock nut chain tensioner	24	2.4	17	
Chain housing and frame	48	4.8	35	
Driven sprocket	48	4.8	35	Apply LOCTITE®
Drain bolt	16	1.6	11	
Chain housing cover	24	2.4	17	
Chain housing and brake caliper	48	4.8	35	
Bearing holder (jackshaft)	23	2.3	17	Apply LOCTITE®
Suspension wheel	69	6.9	50	
Guide wheel	75	7.5	54	
	3	0.3	2.2	

Parts to be tightened	Tightening torque			Remarks
	Nm	m•kg	ft•lb	
Sliding frame and slide runner	4	0.4	2.9	
Slide rail suspension mounting bolt	71	7.1	51	
Rear pivot arm and bracket	23	2.3	17	Apply LOCTITE®
Shock absorber and rear pivot arm	49	4.9	35	
Rear pivot arm and rod	49	4.9	35	
Rear suspension bracket and rod	49	4.9	35	
Control rod and sliding frame	69	6.9	50	
Front pivot arm and sliding frame	69	6.9	50	
Shock absorber and front pivot arm	49	4.9	35	
Shock absorber and bracket	49	4.9	35	
Shock absorber and rear pivot arm	49	4.9	35	
Bracket shaft and sliding frame	69	6.9	50	
Collar (front axle)	6	0.6	4.3	
Speedometer gear	20	2.0	14	
Handlebar holder	14.5	1.45	10.4	
Steering column				
Upper	23	2.3	17	
Lower	23	2.3	17	
Steering column and relay rod	35	3.5	25	
Relay rod and relay arm	35	3.5	25	
Relay arm and tie rod	35	3.5	25	
Tie rod and steering arm	54	5.4	38	
Locknut (relay rod)	25	2.5	18	Apply LOCTITE®
Ski runner	26	2.6	19	
Ski	48	4.8	35	
Shock absorber (upper)	48	4.8	35	
Shock absorber (lower)	48	4.8	35	
Steering arm and ski column	48	4.8	35	
Lower control arm and frame	50	5.0	36	
Upper control arm and frame	50	5.0	36	
Control arm and front arm	48	4.8	35	
Front arm pivot bolt	78	7.8	56	
Stabilizer bar and connecting rod	23	2.3	17	
Connecting rod and front arm	56	5.6	40	
Hood	3	0.3	2.2	
Seat and frame (nut)	9	0.9	6.5	
Front cowling	3	0.3	2.2	

CABLE ROUTING

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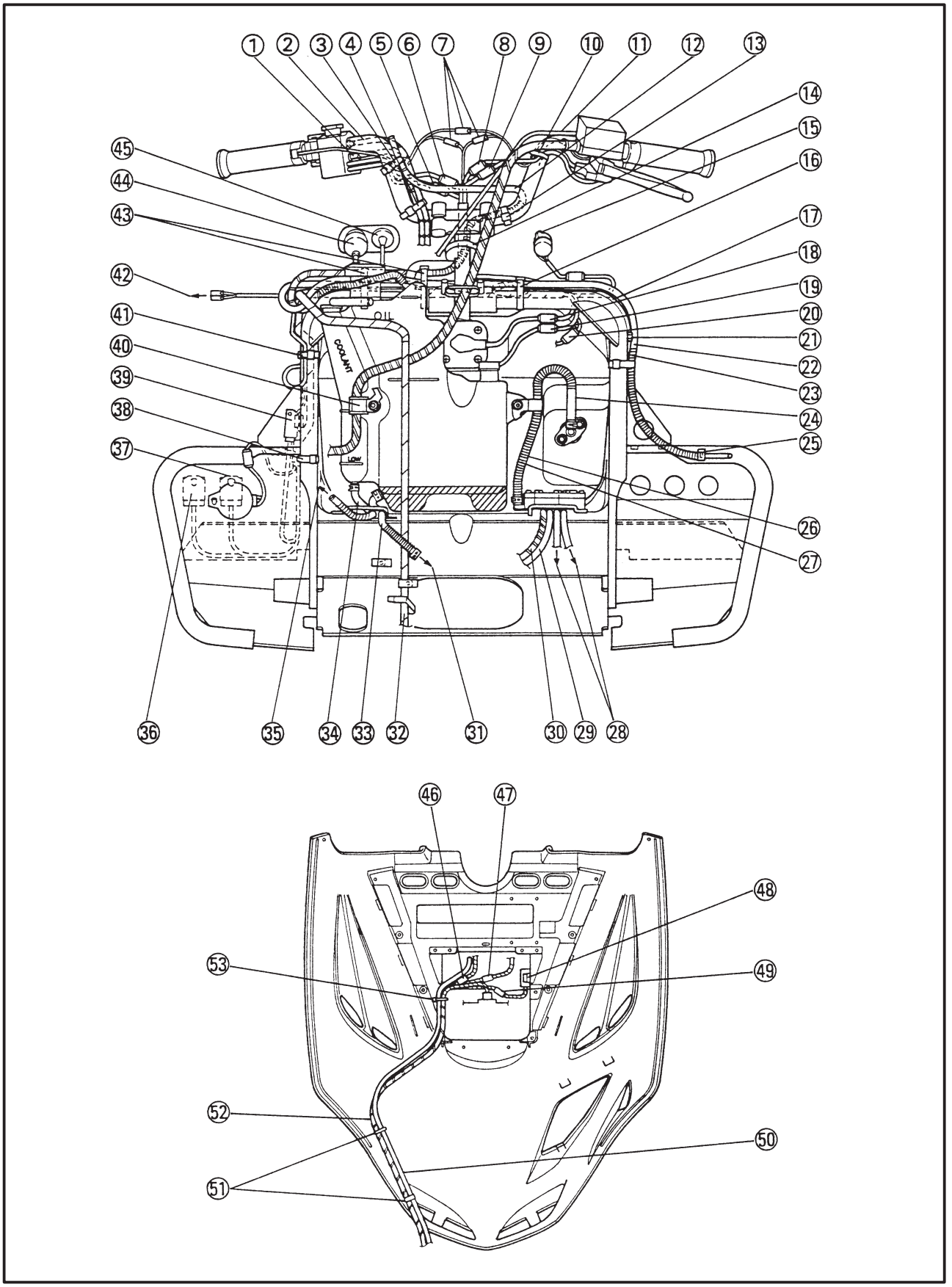
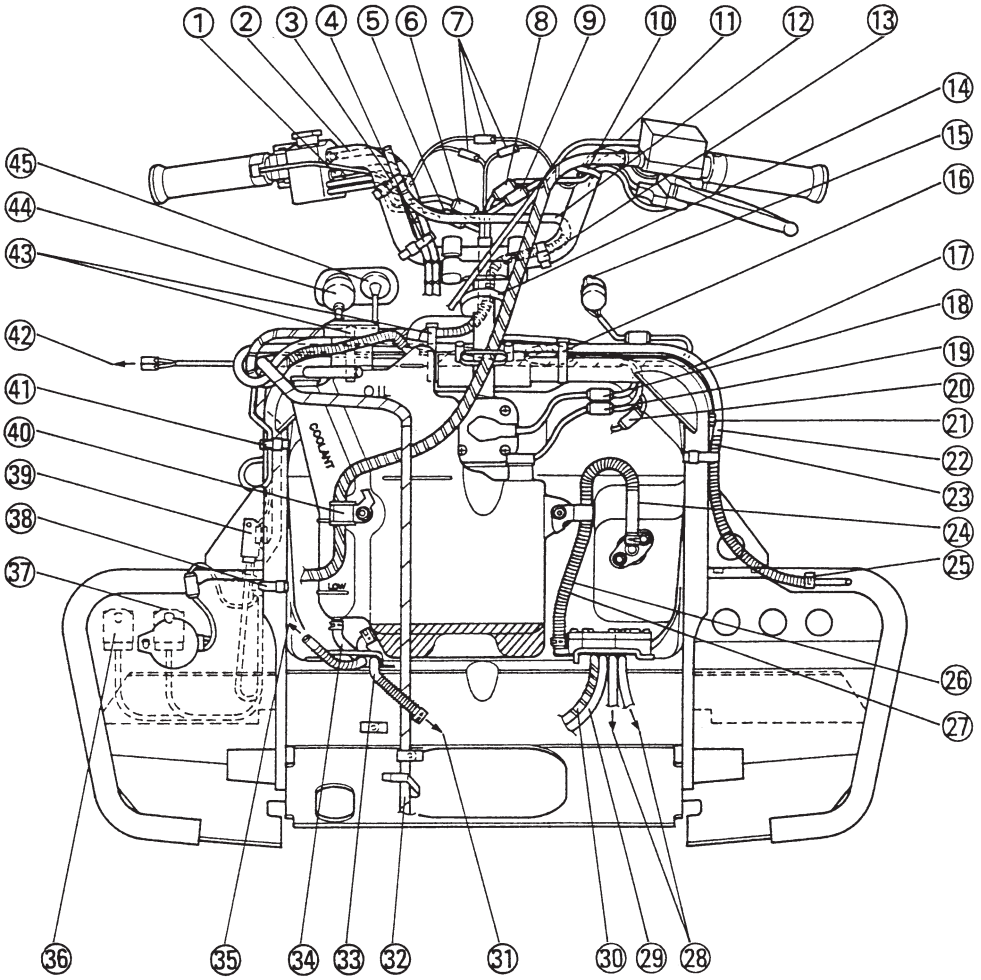


CABLE ROUTING

<For 500>

① Oil pump cable
② Throttle cable
③ Fasten the wire harness.
Do not fasten the throttle cable and oil pump cable.
④ Fasten the throttle cable and oil pump cable
with a plastic clamp. Route the cable along the side of the handle holder.
⑤ Thumb warmer coupler
⑥ Engine stop switch coupler
⑦ Grip warmer lead
⑧ Brake light switch coupler
⑨ Head light switch coupler
⑩ Fasten oil breather hose and wire harness with a plastic clamp.
⑪ Parking brake cable
⑫ Oil breather hose
⑬ Fasten the oil breather hose with a plastic clamp.
⑭ Fasten the wire harness and oil breather hose behind the steering colum with a plastic band.
Do not fasten the parking brake cable and brake hose.
⑮ Grip warmer control knob
⑯ Fasten the wire harness and fuel breather hose with a plastic clamp.
⑰ Ground lead
⑱ Fuel sender coupler
⑲ Oil level switch coupler
⑳ Fuel switch coupler
㉑ Bolt
㉒ Fuel breather hose
㉓ Spring compression
㉔ Fuel pipe
㉕ Clip
㉖ Spring compression
㉗ Fuel hose
㉘ To the carburetor
㉙ Pulser hose
㉚ Oil hose
㉛ To oil pump
㉜ Wire harness
㉝ Oil hose
㉞ Coolant hose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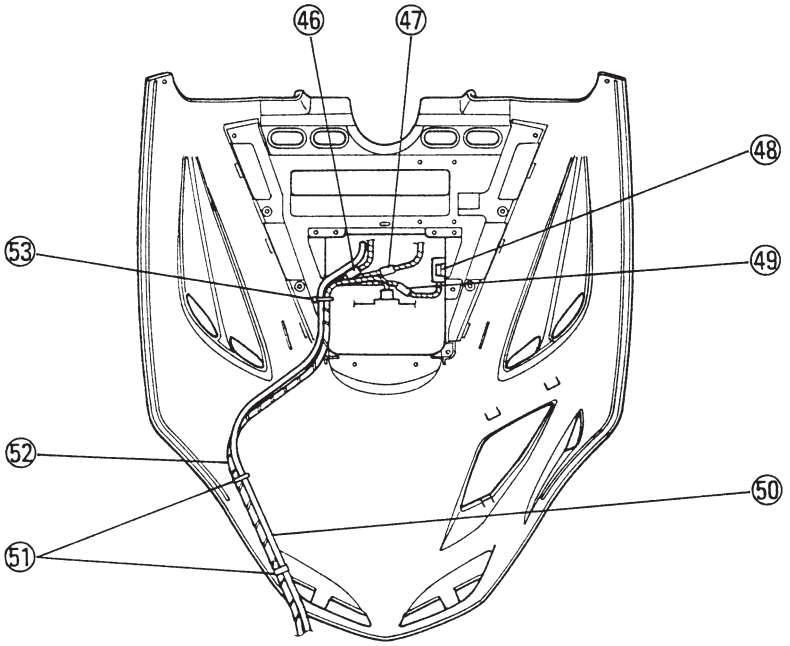
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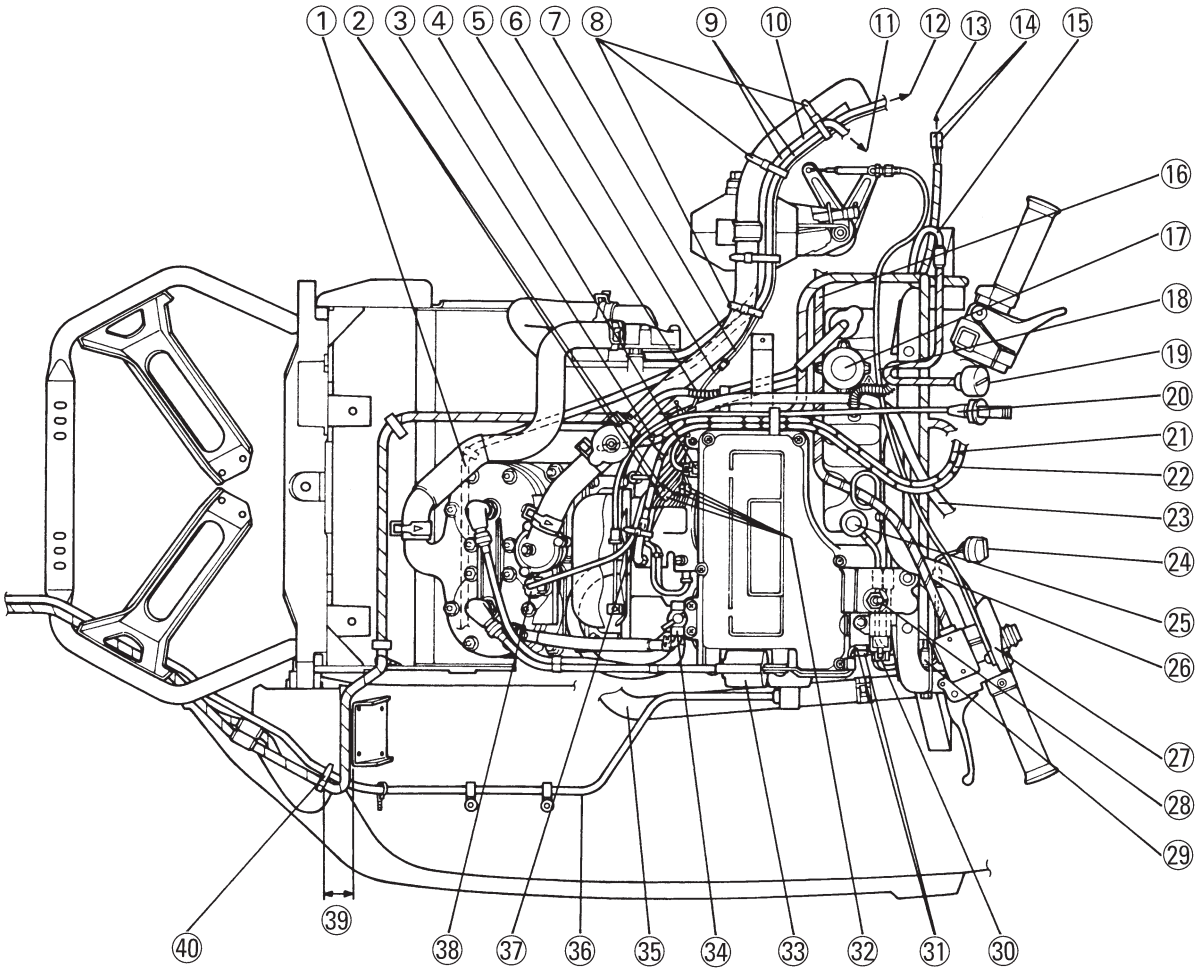
㉟ To the conduction
㊱ Voltage regulator
㊲ Rectifire regulator
㊳ Fasten the wire harness with a plastic clamp.
㊴ Rectifire regulator (ECC model)
㊵ Brake hose holder
㊶ Fasten the wire harness with a plastic clamp.
㊷ To reverse gear
㊸ Fasten the wire harness, fuel breather hose and oil breather hose with a plastic clamp.
㊹ Main switch assembly
㊺ Starter (choke) lever assembly
㊻ Speedometer coupler
㊼ Tachometer coupler
㊽ Install the smoothing condenser so it is flush with the inner edge of the tab.
㊾ Smoothing condenser coupler
㊿ Speedometer cable
(51) Clamp
(52) Headlight lead
(53) Clamp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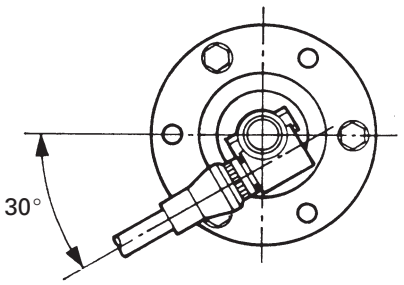
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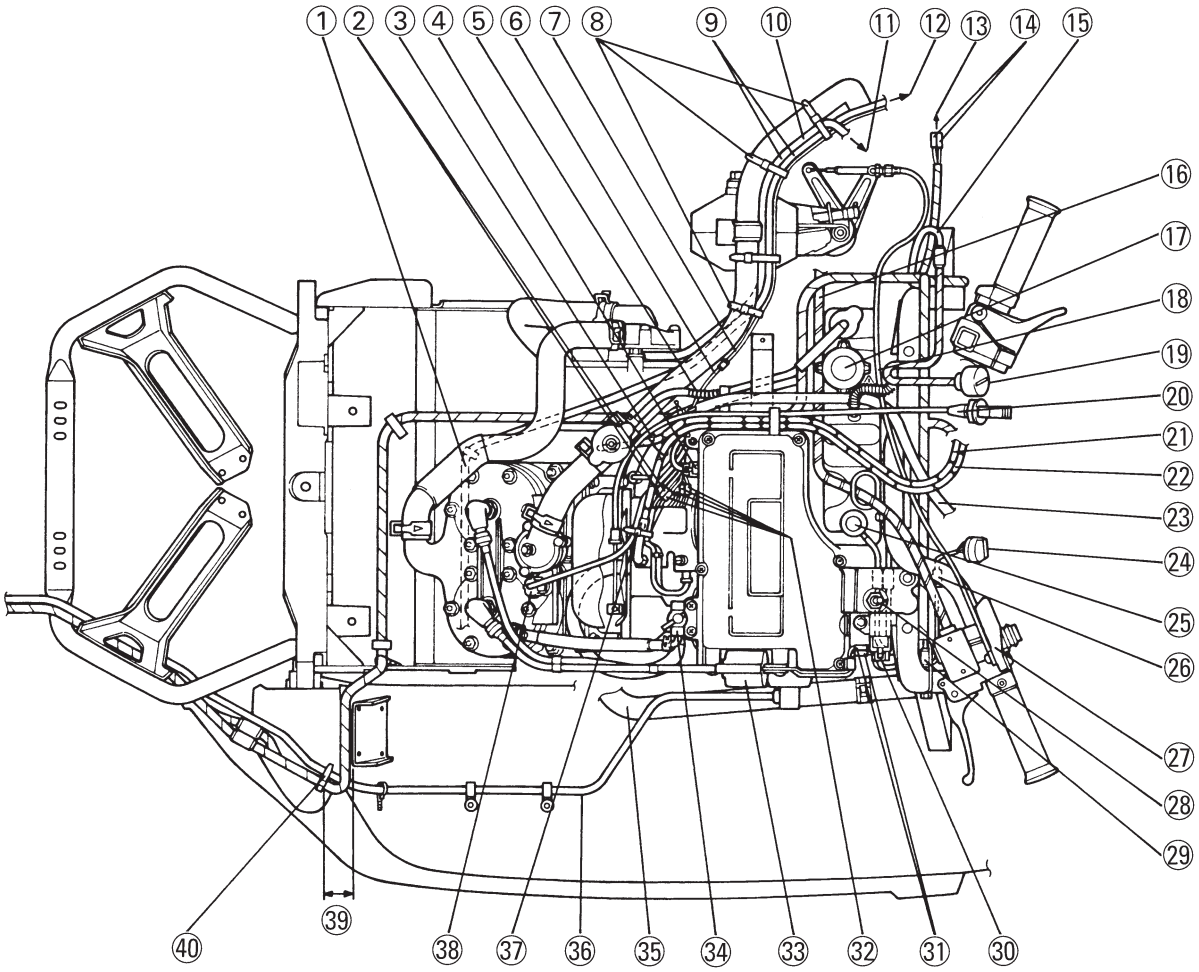
① Wire lead (electrical starter model)
② Carburetor switch coupler
③ Fasten the throttle cable and oil pump cable with a plastic clamp.
④ Air temperature sensor coupler (ECC model)
⑤ Coolant hose
⑥ Starter relay lead
⑦ Starter relay sub lead (electrical starter model)
⑧ Fasten the wire harness, battery negative lead and coolant hose with a plastic clamp. (electrical starter model)
⑨ Route the battery lead along the behind coolant hose.
⑩ Battery negative lead
⑪ To battery negative terminal
⑫ To starter relay
⑬ To reverse gear
⑭ Gear position switch lead (reverse model)
⑮ Route the main switch harness along the under of the oil and fuel breather hose.
⑯ Brake hose
⑰ Oil tank
⑱ Route the parking brake cable along the under of the oil breather hose.
⑲ Main switch assembly
⑳ Starter cable assembly
㉑ Oil pump cable
㉒ Throttle cable
㉓ Air bent hose (ECC model)
㉔ Variable resister
㉕ Oil level gauge
㉖ Variable resister coupler
㉗ Parking brake
㉘ Fuel switch (ECC model)
㉙ Diagnosis check coupler (ECC model)
㉚ Atmospheric pressure sensor coupler (ECC model)
㉛ Ignition coil coupler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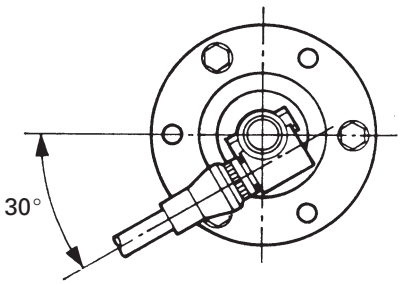
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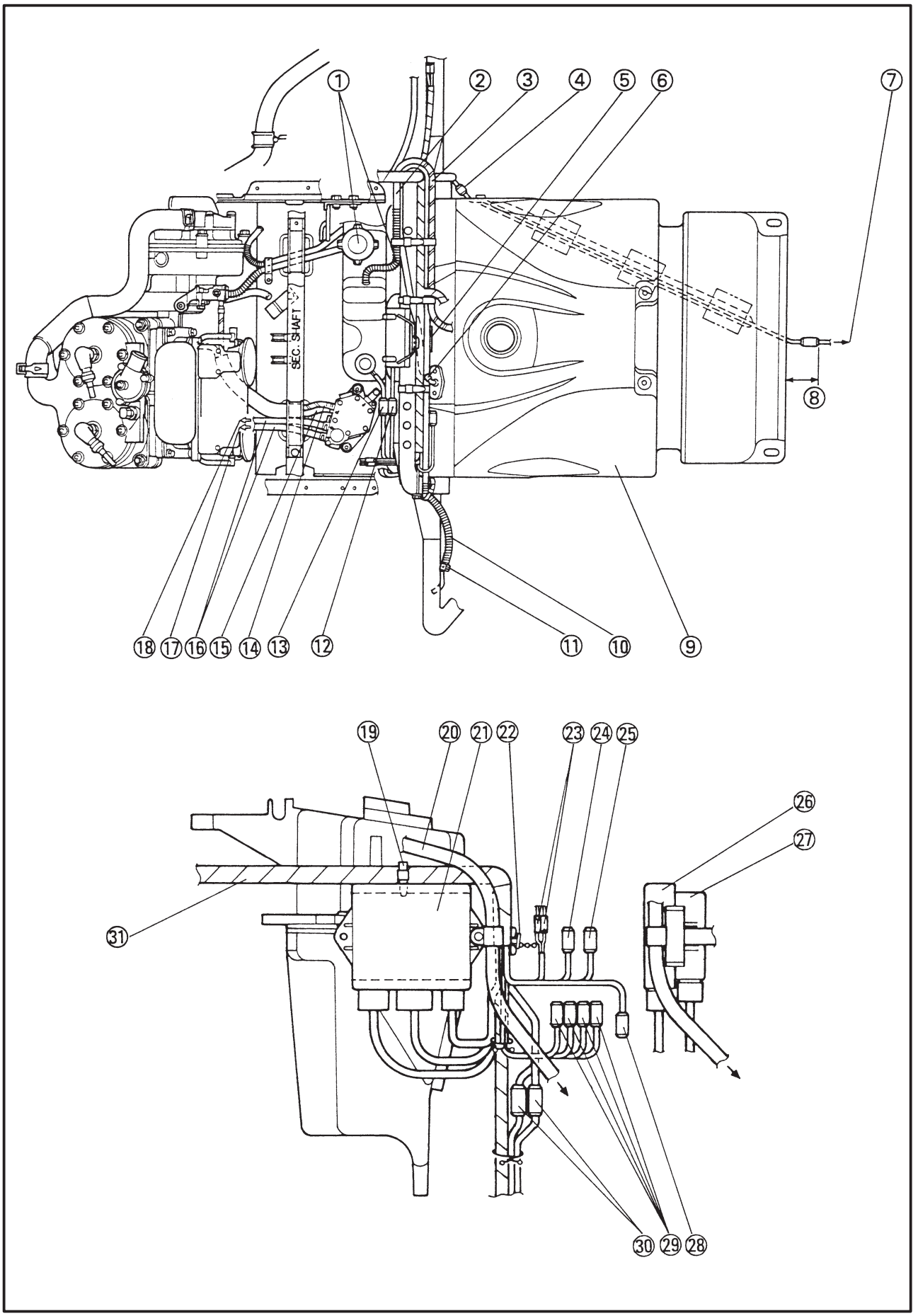
㉜ Solenoid coupler (ECC model)
㉝ Ignition coil
㉞ Carburetor heating lever
㉟ Coolant hose
㊱ Speedometer cable
㊲ Fasten the throttle cable, water temperature sensor lead, carburetor switch lead and solenoid lead with a plastic clamp.
㊳ Water temperature sensor coupler
㊴ Under 50 mm (1.97 in)
㊵ Fasten the speedometer cable and wire harness with a plastic clamp.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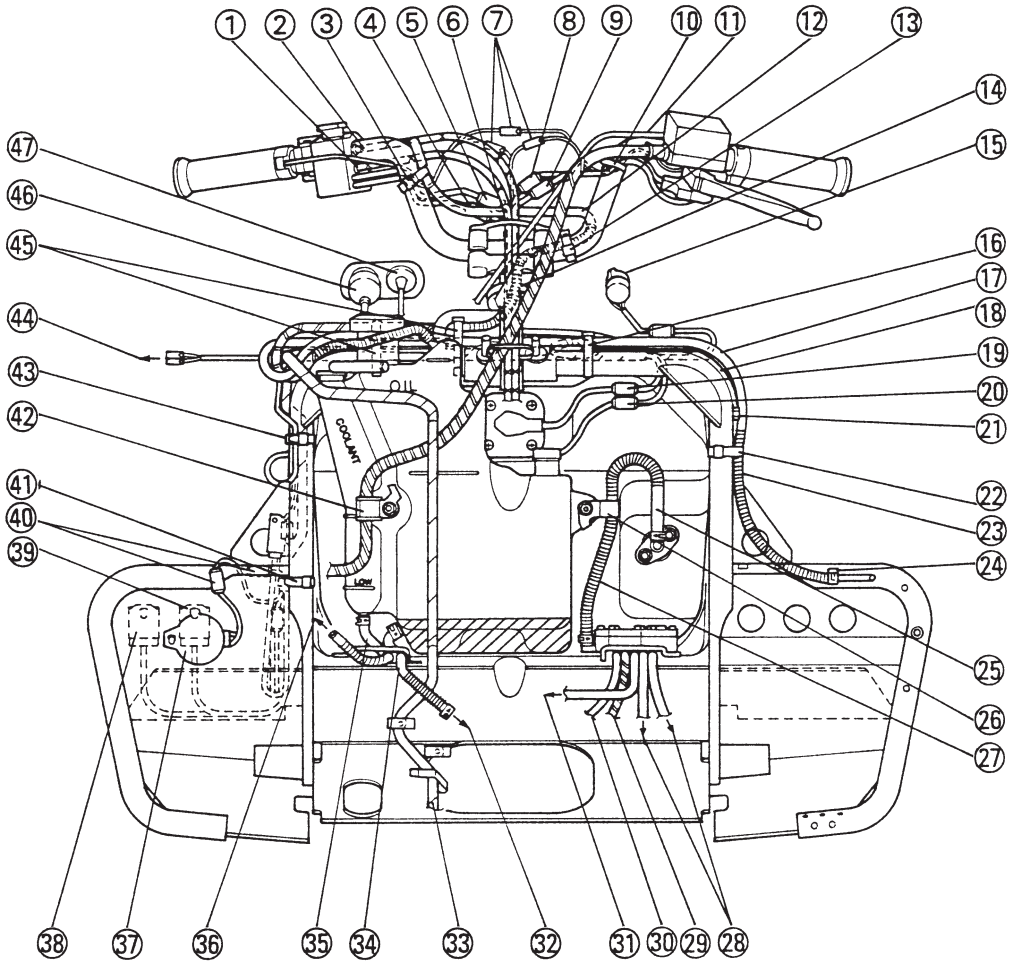
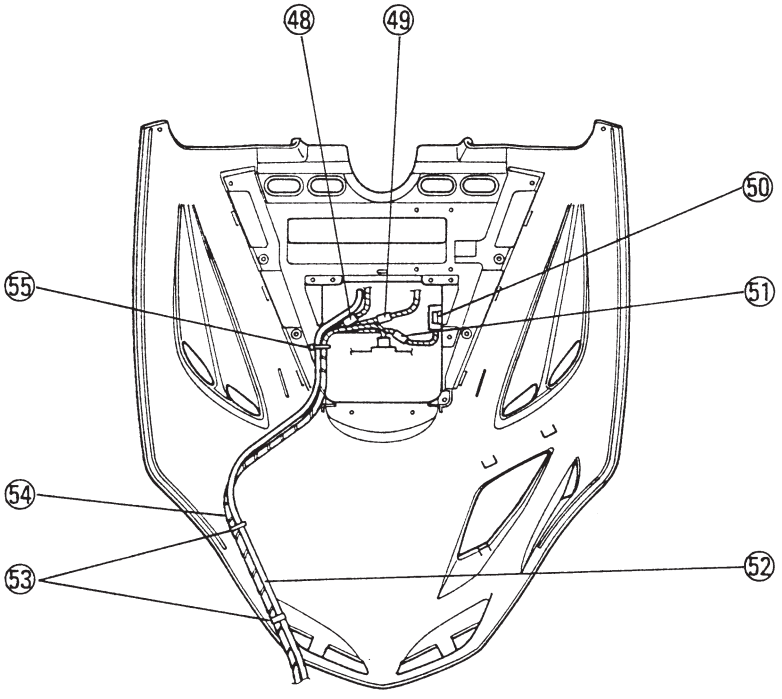
① Make sure that the oil tank cap and oil breather hose do not touch each other.
② Route the fuel breather hose along the upper of the main harness.
③ Route the oil breather hose along the upper of the main harness.
④ Install the tail/brake light lead behind the instrument panel.
⑤ Holder
⑥ Clip
⑦ To tail/brake light
⑧ 50 mm (1.97 in)
⑨ Fuel tank
⑩ Spring compression
⑪ Clip
⑫ Fuel sender coupler
⑬ Oil level switch
⑭ Oil hose
⑮ Pulser hose
⑯ Fuel hose
⑰ To carburetor left side
⑱ To carburetor right side
⑲ Fasten the wire harness with a plastic clamp.
Route the wire harness through the slot on the intake silencer.
⑳ Air vent hose (ECC model)
㉑ CDI unit and ECU
㉒ Fasten the wire harness with a plastic clamp.
Route the wire harness through the slot on the intake silencer.
㉓ Carburetor switch coupler
㉔ Water temperature sensor coupler
㉕ Starter relay coupler
㉖ ECU (ECC model)
㉗ CDI unit
㉘ TPS coupler (600 cc model)
㉙ Solenoid coupler
㉚ CDI magneto coupler
㉛ Wire harness

CABLE ROUTING

<700>

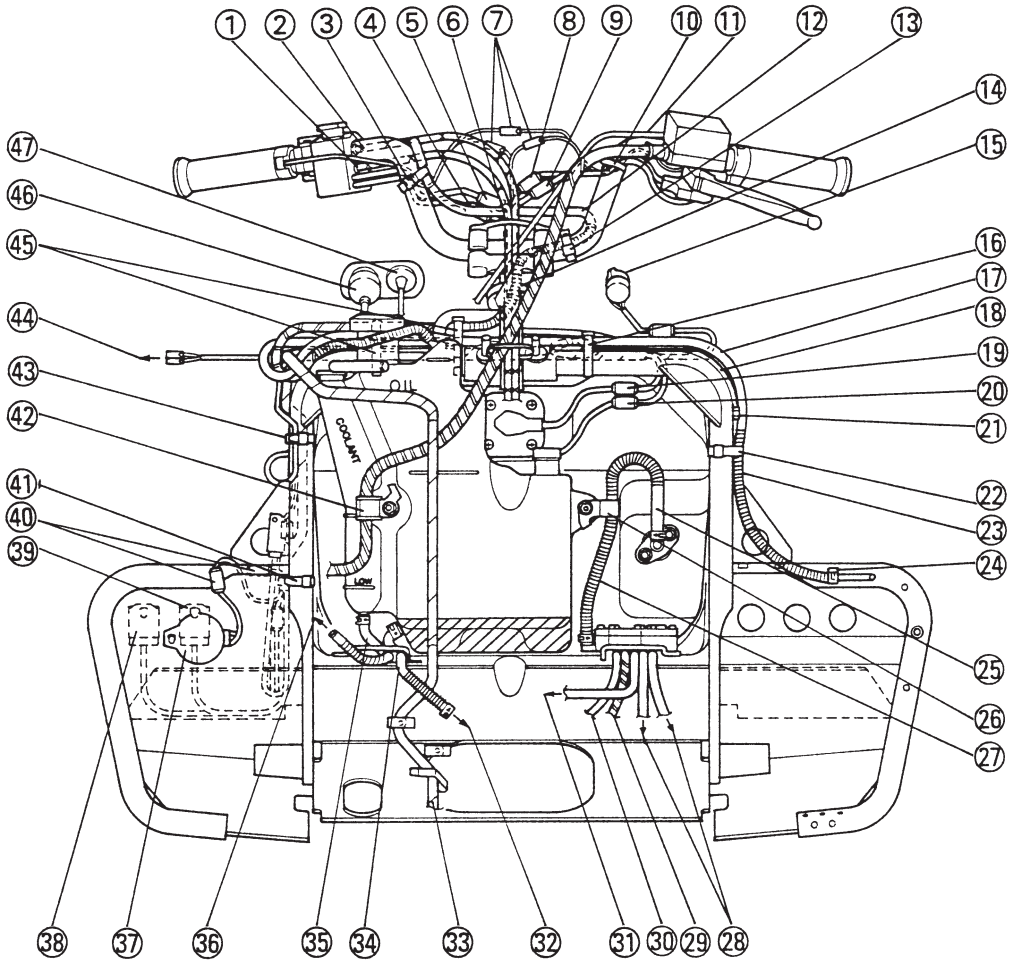




CABLE ROUTING

<For 700>

① Oil pump cable
② Throttle cable
③ Do not fasten the throttle cable and oil pump wire with a plastic clamp.
④ Thumb warmer coupler
⑤ Engine stop switch coupler
⑥ Holder
⑦ Grip warmer coupler
⑧ Brake light switch coupler
⑨ Head light switch coupler
⑩ Fasten the oil breather hose with a plastic clamp.
⑪ Parking brake cable
⑫ Oil breather hose
⑬ Fasten the oil breather hose with a plastic clamp.
⑭ Fasten the wire harness and oil breather hose behind the steering column with a plastic band.
Do not fasten the parking brake cable and brake hose.
⑮ Variable resistor
⑯ Fasten the wire harness and fuel breather hose with a plastic clamp.
⑰ Fuel breather hose
⑱ Ground read
⑲ Fuel sender coupler (electrical fuel gauge model)
⑳ Oil level switch coupler
㉑ Bolt
㉒ Clamp
㉓ Compression spring
㉔ Clip
㉕ Fuel pipe
㉖ Fuel hose holder
㉗ Compression spring
㉘ To carburetors
㉙ Pulser hose
㉚ Oil hose
㉛ To carburetors
㉜ To oil pump
㉝ Wire harness
㉞ Oil hose
㉟ Coolant hose
㊱ To the conduction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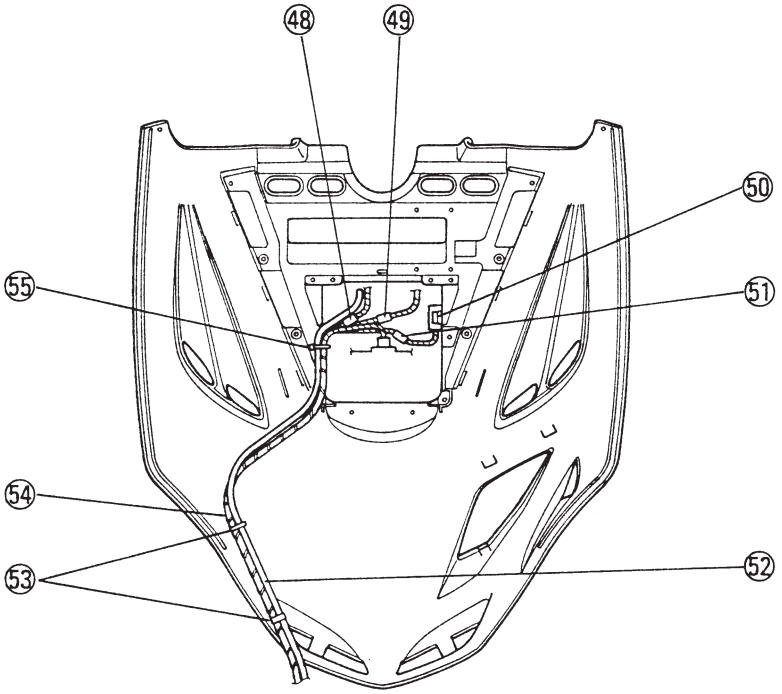
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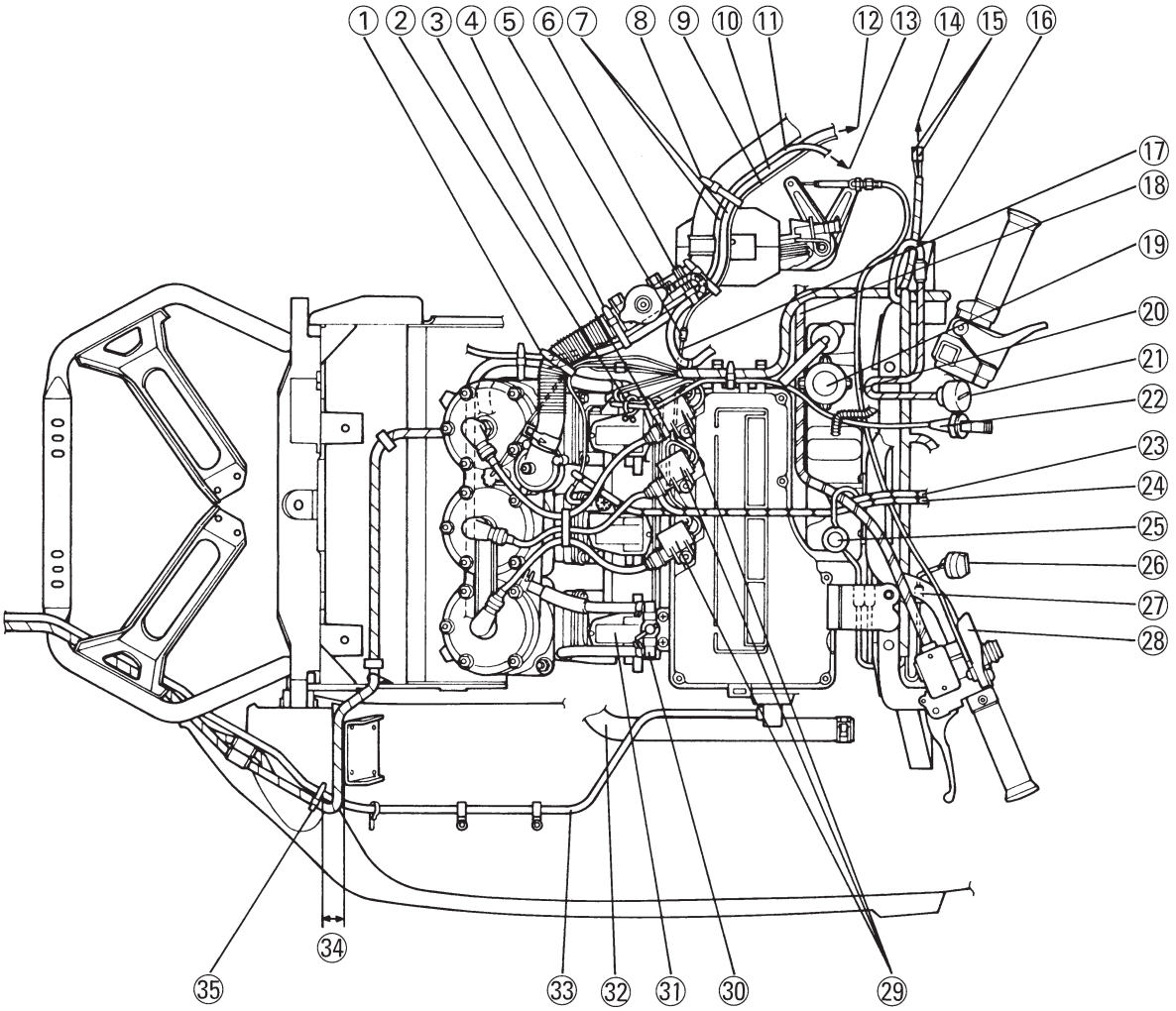
㊲ DC back buzzer (reverse model)
㊳ Voltage regulator
㊴ Rectifier regulator
㊵ DC back buzzer coupler
㊶ Fasten the wire harness with a plastic clamp.
㊷ Brake hose holder
㊸ Fasten the wire harness with a plastic clamp.
㊹ To reverse gear
㊺ Fasten the wire harness, fuel breather hose and oil breather hose with a plastic clamp.
㊻ Main switch assembly
㊼ Starter (choke) cable assembly
㊽ Speedometer coupler
㊾ Tachometer coupler
㊿ Install the smoothing condenser so it is flush with the inner edge of the tab.
(51) Smoothing condenser coupler
(52) Speedometer cable
(53) Clamp
(54) Head light lead
(55) Clamp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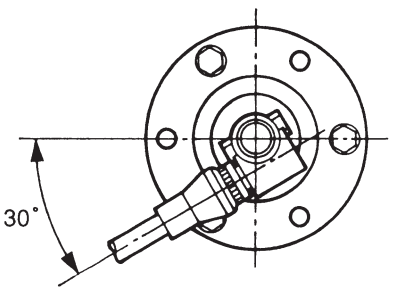
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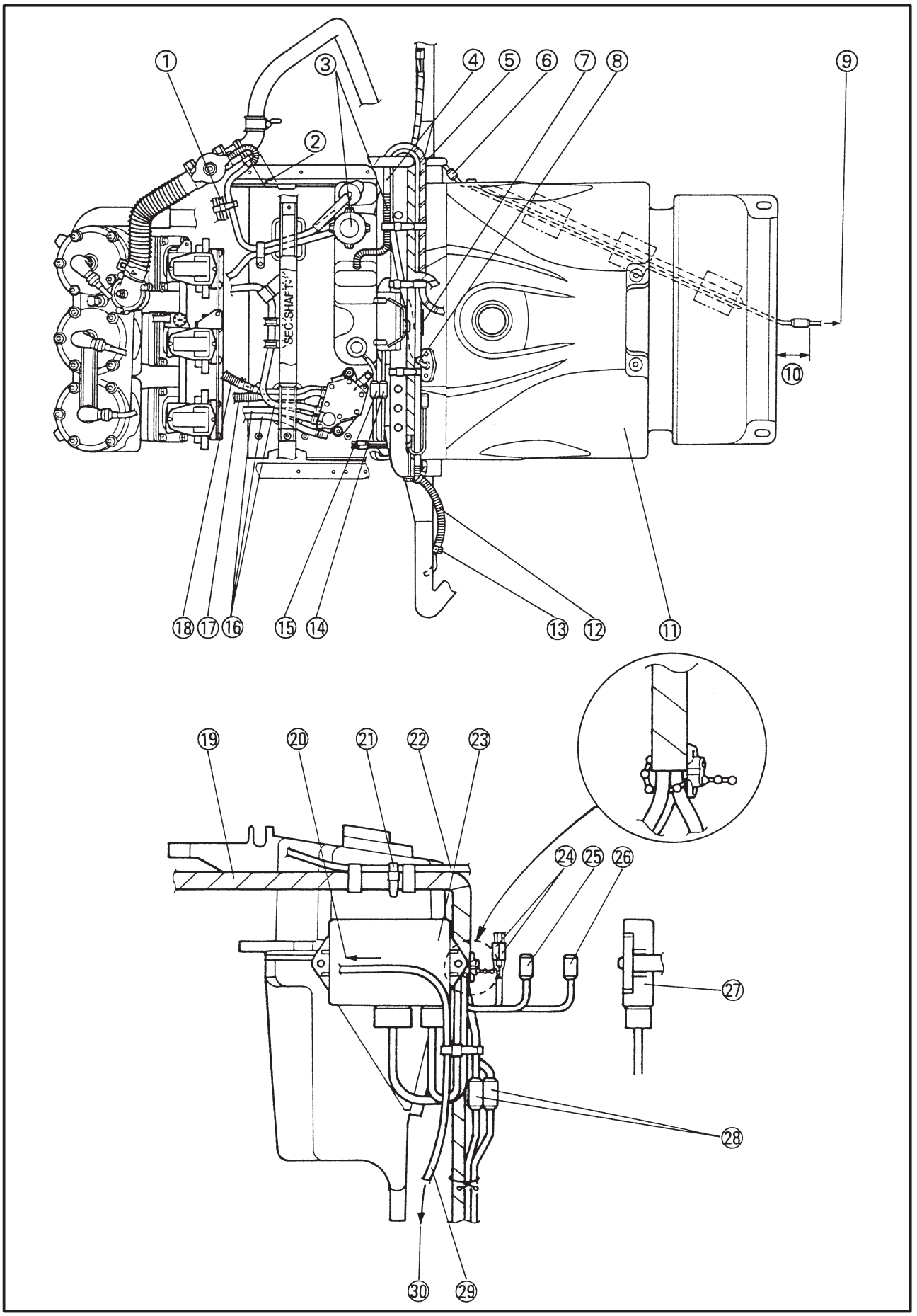
① Fasten the carburetor switch, water temperature sensor lead, coolant hose, wire lead and battery negative lead with a plastic clamp.
② Clamp
③ Fasten the ignition coil and starter cable with a plastic clamp.
④ Fasten the wire lead, battery negative lead and coolant hose with a plastic clamp.
⑤ Cap (without electlic starter model)
⑥ Fasten the coolant hose with a plastic clamp.
⑦ Route the battery lead along the behind coolant hose.
⑧ Fasten the wire lead, battery negative lead and coolant hose with a plastic clamp.
⑨ Starter relay sub lead
⑩ Wire lead
⑪ Wire negative lead
⑫ To starter relay
⑬ To battery negative lead
⑭ To reverse gear
⑮ Gear position switch coupler
⑯ Route the main switch harness along the under of the oil and fuel breather hose.
⑰ Starter relay lead
⑱ Brake hose
⑲ Oil tank
⑳ Route the parking brake cable along the under of the oil breather hose.
㉑ Main switch assembly
㉒ Starter cable assembly
㉓ Oil pump cable
㉔ Throttle cable
㉕ Oil level gauge
㉖ Variable resistor
㉗ Variable resistor coupler
㉘ Parking brake cable
㉙ Ignition coil
㉚ Carburetor heating lever
㉛ Carburetor
㉜ Coolant hose
㉝ Speedometer cable
㉞ Under 50 mm (1.97 in)
㉟ Fasten the speedometer cable and wire harness with a plastic clamp.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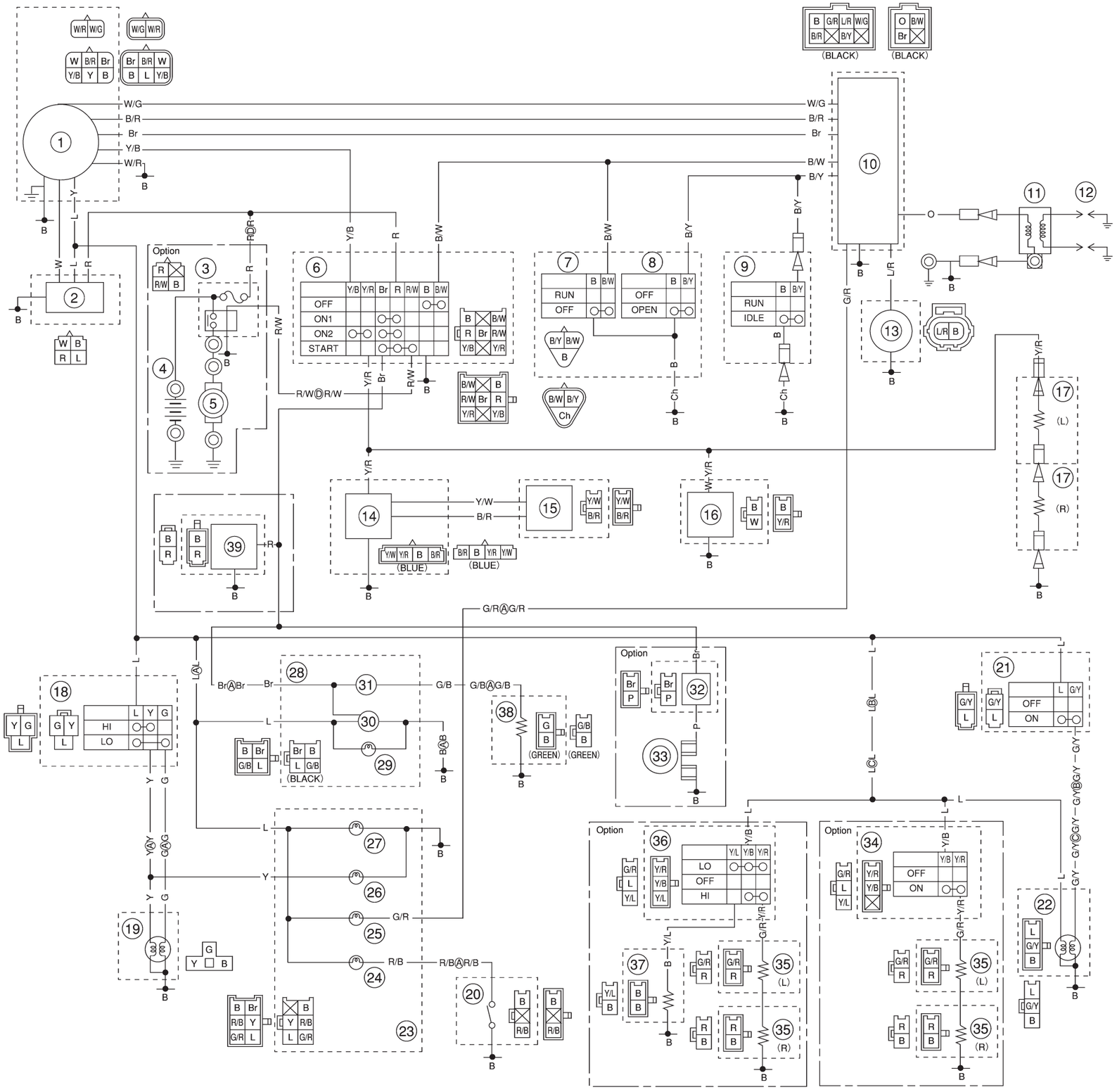
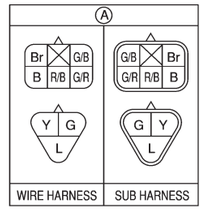
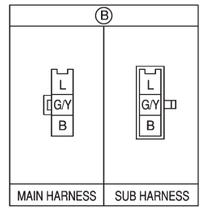
① Wire harness
② 50 mm (1.97 in)
③ Make sure that the oil tank cap and oil breather hose do not touch each other.
④ Route the fuel breather hose along the upper of the main harness.
⑤ Route the oil breather hose along the upper of the main harness.
⑥ Install the tail/brake light lead behind the instrument panel.
⑦ Holder
⑧ Clip
⑨ To tail/brake light
⑩ 50 mm (1.97 in)
⑪ Fuel tank
⑫ Compression spring
⑬ Clip
⑭ Fuel sender coupler
⑮ Oil level switch coupler
⑯ Fuel hose
⑰ Pulser hose
⑱ Oil hose
⑲ Wire harness
⑳ To the conduction
㉑ Fasten the wire harness and starter cable with a plastic clamp. Route the wire harness and starter cable through the slot on the intake silencer.
㉒ Starter cable
㉓ CDI unit
㉔ Carburetor switch coupler
㉕ Water temperature sensor coupler
㉖ Starter relay coupler
㉗ CDI unit
㉘ CDI magneto coupler
㉙ Coolant breather hose
㉚ To the reservoir tank

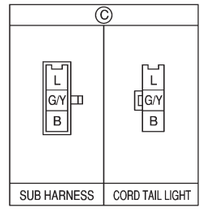
WIRING DIAGRAM

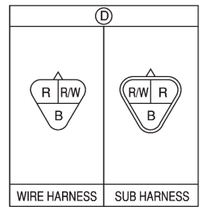
VX500SXB











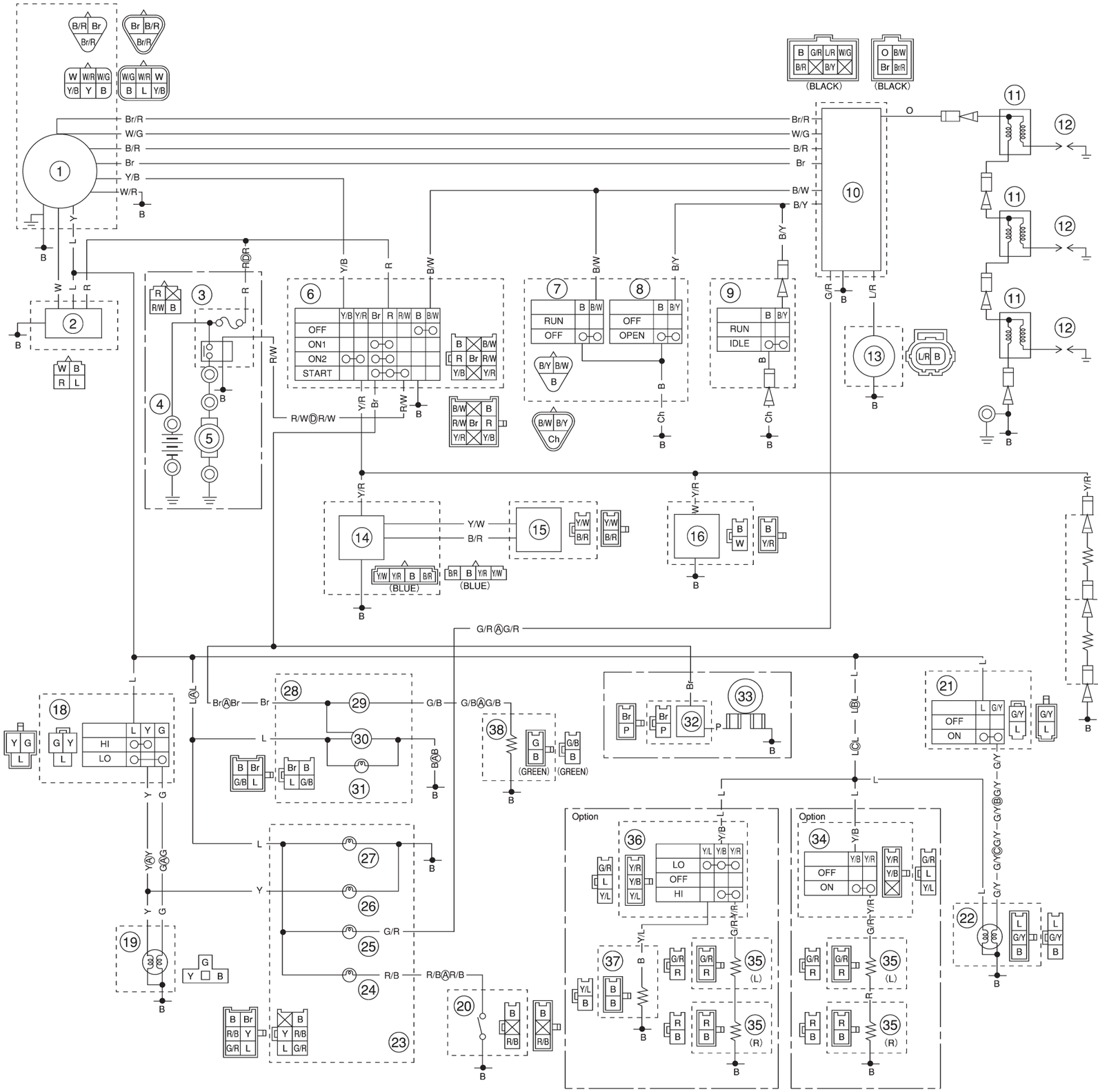
① CDI magneto
② Rectifier/regulator
③ Starter relay/fuse
④ Battery
⑤ Starter motor
⑥ Main switch
⑦ Engine stop switch
⑧ Throttle switch
⑨ Carburetor switch
⑩ CDI unit
⑪ Ignition coil
⑫ Spark plug
⑬ Water temp sensor
⑭ Voltage regulator
⑮ Variable resistor
⑯ Thumb warmer
⑰ Grip warmer
⑱ Headlight beam switch
⑲ Headlight
⑳ Oil level switch
㉑ Brake light switch
㉒ Tail/brake light
㉓ Speedometer assembly
㉔ Oil level indicator light
㉕ Water temp. indicator light
㉖ High beam indicator light
㉗ Speedometer light
㉘ Tachometer assembly
㉙ Tachometer light
㉚ Tachometer
㉛ Fuelmeter
㉜ DC back buzzer
㉝ Gear position switch
㉞ Passenger grip warmer switch
㉟ Passenger grip warmer
㊱ Passenger grip warmer switch
㊲ Passenger grip warmer resistor
㊳ Fuel sender
㊴ Condenser

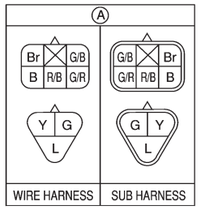
COLOR CODE

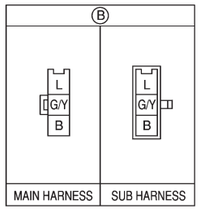
B ..... Black
G ..... Green
L ..... Blue
O ..... Orange
P ..... Pink
R ..... Red
W ..... White
Y ..... Yellow
Br ..... Brown
Ch ..... Chocolate
B/R ..... Black/Red
B/W ..... Black/White
B/Y ..... Black/Yellow
G/R ..... Green/Red
G/Y ..... Green/Yellow
L/R ..... Blue/Red
R/B ..... Red/Black
R/W ..... Red/White
W/G ..... White/Green
W/R ..... White/Red
Y/B ..... Yellow/Black
Y/R ..... Yellow/Red
Y/W ..... Yellow/White

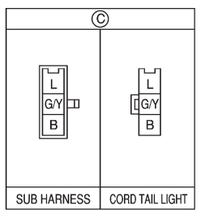
WIRING DIAGRAM

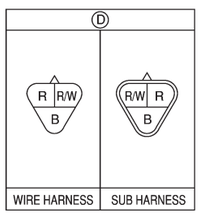
VX700ER











① CDI magneto
② Rectifier/regulator
③ Starter relay/fuse
④ Battery
⑤ Starter motor
⑥ Main switch
⑦ Engine stop switch
⑧ Throttle switch
⑨ Carburetor switch
⑩ CDI unit
⑪ Ignition coil
⑫ Spark plug
⑬ Water temp sensor
⑭ Voltage regulator
⑮ Variable resistor
⑯ Thumb warmer
⑰ Grip warmer
⑱ Headlight beam switch
⑲ Headlight
⑳ Oil level switch
㉑ Brake light switch
㉒ Tail/brake light
㉓ Speedometer assembly
㉔ Oil level indicator light
㉕ Water temp indicator light
㉖ High beam indicator light
㉗ Speedometer light
㉘ Tachometer assembly
㉙ Fuel meter
㉚ Tachometer
㉛ Tachometer light
㉜ DC back buzzer
㉝ Gear position switch
㉞ Passenger grip warmer switch
㉟ Passenger grip warmer
㊱ Passenger grip warmer switch
㊲ Resistor
㊳ Fuel sender

COLOR CODE

B ..... Black
G ..... Green
L ..... Blue
O ..... Orange
P ..... Pink
R ..... Red
W ..... White
Y ..... Yellow
Br ..... Brown
Ch ..... Chocolate
B/R ..... Black/Red
B/W ..... Black/White
B/Y ..... Black/Yellow
G/B ..... Green/Black
G/R ..... Green/Red
G/Y ..... Green/Yellow
L/R ..... Blue/Red
R/B ..... Red/Black
R/W ..... Red/White
W/G ..... White/Green
W/R ..... White/Red
Y/B ..... Yellow/Black
Y/L ..... Yellow/Blue
Y/R ..... Yellow/Red
Y/W ..... Yellow/White
Br/R ..... Brown/Red

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